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Editorials

UNITED WE STAND, DIVIDED WE FALL

There are a number of physicians who followed the siren call of the wolf's voice masked with butter in the report of the "American Foundation Proposals for Medical Care," who appear now to be in the same sad position of the man who caught a wildcat by the tail. He couldn't let go and he couldn't hang on.

That they had grabbed a wildcat some of these doctors seemed not to realize until the *Journal of the American Medical Association* in its issue of November 11, 1937, published an editorial entitled "Principles and Proposals for Medical Care." In this editorial petitions circulated by a certain physician and the signers thereof received what one of the signers has termed "a severe castigation." Since then many of the signers have been besieging medical journals all over the country to give them space for their "reasons." Perhaps no better index of the stand taken by the A. M. A. can be found than this reply by the editor of the Journal of the A. M. A. to one of those "signers" who wished to justify his signing the principals and proposals documents. The letter sent to this man by the Editor of the Journal of the A. M. A. and which the doctor in question has had printed and is circulating on his own responsibility reads as quoted: "Dear Doctor ....., I have your letter of Oct. 19 enclosing one addressed to the Editor in which you discuss the reasons for signing the petitions circulated by Dr. ..... We have received a number of letters from those who signed, telling why, and from those who did not sign, telling why not. Space however is simply not available for these items in the JOURNAL. They are being collected and will no doubt be sent with the editorial to the Board of Trustees for its consideration and perhaps also to the House of Delegates."

(Signed) Editor, Journal A. M. A.

In this instance the physician in question made his own formal demand on the Board of

Trustees. In another letter it has been made manifest that the Trustees voted to take no action. An encouraging sign to the faithful followers of medicine who realize the truth of the early American slogan, "United We Stand, Divided We Fall."

The instigators of this especial piece of anti-American anti-medical propaganda are surely sadly beset and much put about in the endeavor to patch up their fences.

In this regard let quotation be made from the reply sent by a prominent Illinois medico to the bewailing and misguided doctor who was irate because he could not pierce the defense of the A. M. A.

"Doctor I would respectfully call your attention to the action of the House of Delegates during the 1937 session. This action was taken as the results of an overwhelming majority vote.

"Doctor, I want to be fair and I am sure that each and every delegate who represents you and your group in the House has the same desire. I need not tell you how the House of Delegates is made up. It is the court of last appeal and has supreme jurisdiction over the Board of Trustees on policies of the nature of the purposes, as set forth by your group. Doctor Fishbein has no power to rise above the order of the Board of Trustees, on matters of policy, whatever his personal view may be. He is the editor of our A. M.A. Journal, the official journal of our organization and I cannot help but feel that you would not desire Dr. Fishbein to violate the trust imposed in him to cover what seems an apparent mistake.

"It is my personal opinion that the proposal set forth by the group had no time or place in the true ethical issue of Medical Service, as they were the outgrowth of the American Foundation for the Study of Government, which has not met the approval of the profession. This I am sure was known by each one of the group.

"I feel that you would not have our State JOURNAL carry in its columns that which the House of Delegates has said in no uncertain terms, is detrimental to the best interest of the progress of Medical Science and Service. If the JOURNAL opened its pages to this, then in my opinion it would be submitting itself to dictatorship of a minority interest.

"The last two lines of your letter, states 'it depends upon what the governing body of the American Medical Association, do.' Inferring that if we refuse this request, that we are unfair in our judgment. Again, I remind you that the House of Delegates has rendered its decision.

"In closing let me speak in terms as a reformer. If your group has stepped outside the garden and realizes it, just come back and let all move along with the rank and file and abide by the will of the majority. Mistakes need not be made, but they will be made regardless of the need. We delegates will make mistakes and we must right them and we will."

And this copy of a reply sent by one of the most prominent medical men in the country to this same apostatic appeal:

"Your note of the third with enclosure has been duly received. Permit me in reply to express freely to you my reaction.

"On a matter of medical procedure I would gladly agree fully to your thesis. On a matter of public policy at the present time I believe a united front is imperative. Whatever your private belief may be, and we all may dissent at times, the place for such a discussion is in the forum of our professional body and not where the publicity can be used against the professional integrity and the homogenous advancement of the science of medicine.

"It therefore seems to me that a public journal is no place to exhibit a division of thought in the profession at a time of uncertainty, when the efforts of a group of moo-cow mammies and social theorists is tied up with a shallow, personal, irresponsible government headed toward the Hitlerization of America and which aims to destroy the only honest-to-God practice of medicine which remains free and unsubjugated in the world today.

"Your letter and similar ones, if such there be, will doubtless be brought before the house of delegates and properly considered in due time if the profession is not destroyed before the next meeting."

BUREAUCRATIC AUTOCRACY MEANS LAY DICTATION AND CONTROL

Dangerous indeed is the trend to specialization, over centralization; and group organization that tends to permit or to admit lay dictation or control of the practice of medicine and the

pauperizing of the profession by making the state bear the care of illness of its non-pauper citizens through tax levies; and further from the unfair competition to the legitimate doctor made by pay clinics, or by universities or corporations entering into the practice of medicine, with no superior skill to offer but backed up by the advertising that ethics forbids the respected physician to assume.

Pay clinics are springing up like mushrooms and everywhere are found examples of corporations and universities entering into the practice of medicine for profit.

Many complaints are heard as comment upon the economic situation of the doctor especially as regards unfair competition. For example, many doctors are bitter in their denunciation of the unfair competition offered by the Billings Hospital and the University of Chicago clinics among others. Not because superior medical service is rendered there but because the prestige of the university attracts patients who would not otherwise employ members of those staffs. By engaging in the practice of medicine in competition with private practitioners it seems likely that any university is missing an opportunity to become a consultation center of great service alike to the public and the profession.

In Chicago the Public Health Institute is always a thorn in the doctor's flesh. It seems likely that its greatest service has been rendered to its founders and the director of its activities. Its excuse for existence is the claim that treatment has been made accessible to some persons who could not have paid for it elsewhere and that other persons have been persuaded to accept treatment there who would not otherwise have received any. It is doubtful if either of these claims could be substantiated.

Some practices of the Infant Welfare societies are irritating to physicians. The Rosenwald Foundation proposes to rescue the "man of moderate means" from the grasp of the ignorant and inefficient private practitioner. Yesterday it was the poor man who needed the assistance of the philanthropist, today it is the man of moderate means, tomorrow even the rich man may need this assistance. The private practitioner will have become entirely incompetent except when he shines in the reflected light of some Foundation. These several phases are all incidental manifestations of that comment made in January, 1922, by the New York State Judiciary Convention that "In the United States there are everywhere being developed at enormous cost in the most intensive fashion a multitudinous bureaucracy with autocratic powers and arbitrary discretion and a vast system of complicated and often conflicting administrative jurisdictions in relation to property and business and personal conduct, which reach and affect almost every individual, and most of which only a few years ago would have been regarded as of strictly personal concern and not to be tolerated by a free people.

"Extensive legislation, executive and judicial powers are being vested and combined in administrative bodies in distinct and reckless disregard of the sound principles of the separation of governmental powers which was deemed so essential to the due protection of individual rights by the wise founders of our republican form of government.

"Even controverted questions of law and fact, heretofore regarded as fundamentally and exclusively for judicial determination, are being intrusted to bureaucratic discretion, and for orderly judicial procedure as known to our fathers and the competent and impartial interpretation of the laws by learned judges and juries, arbitrary methods and untrained judgment are being constantly substituted."

More elements of state medicine, the direct outgrowth of such bureaucracy carry as a direct menace.

1. Complete control of the medical organization by the Federal Government, with every physician on the same basis as a building janitor.

2. Control of all medical schools by a Federal Medical Education Bureau. Medical students may receive tuition and maintenance free, and medical research will be controlled by the Medical Research Bureau.

3. Government control of hospitals and greater emphasis on the hospital training of students.

4. Abolishment of the private office, establishment of clinical groups with complete laboratory equipment.

5. State medicine can best be defined as the assumption by the commonwealth of those duties in connection with the prevention, cure or alleviation of disease, such as are commonly performed by private individuals who have been duly qualified and registered as physicians.

MEDICAL ECONOMICS

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Kankakee, Illinois

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Address all letters and communications to the Chairman.

So much of the time of the January meeting of the Council of the Illinois State Medical Society was taken up by the economic problems, there was scarcely time for the remainder of the business. And this in spite of the fact that a special meeting of the Economics Committee was held the day preceding to go over the main problems, which have appeared since the last meeting.

Some of the current criticisms of the manner in which the socalled Saltiel Bill is being administered were discussed. While it was generally agreed that the principles of the bill are correct, there are many administrative details of the same yet to be remedied. It was reported at the meeting that in the future, duplicate reports could be obtained on specimens of blood and smears sent to the State Laboratories according to the requirements of the Saltiel Law, by requesting the same at the time the specimens are sent in. This will furnish the attending physician with a permanent office record of the results of the test. In the past the report has been kept on file at the office of the County Clerk and the physician had no record. Now the original report will accompany the Certificate, while the duplicate is kept. But, remember, you must request the duplicate at the time the specimens are sent in. A more uniform system was advised for the different counties of the state, instead of each County Clerk making his own rules.

It was agreed that it is time for a definite policy in regard to the amount of aid the Medico-legal Committee can furnish members of the Society who are sued for malpractice should be arrived at in the near future. Since the May meeting of the House of Delegates, when the old plan was discontinued and the new one started, the members of the Illinois State Medical Society have not been clear as to just what assistance they were entitled and it was thought urgent that they be furnished this information. Accordingly in the very near future there will be a special meeting of the Council to decide on these policies and the members will be informed of the results.

The education of both the lay and medical profession was discussed and it was generally agreed that there was still a great amount of work to be done all over the state. Every County society should have an active committee, which is both able and willing to make talks before any and all organizations requesting the same. No little group of men can afford either the time or the energy to make all these talks. It is unfair to ask them to do so. The more men who prepare themselves for this work, the sooner the medical profession will be properly informed on the subject, for it is well known that the one who gets the most out of any tak is the one who prepares the same.

A recent edition of Medical Economics contained a very good article on the subject, "Family Doctor or Federal Agent." This has also been printed in pamphlet form and should be read by every physician, whether he is in accord with the aforementioned magazine or not. For several years this magazine has stressed the importance of fighting State Medicine, and if we are fair minded we should accord it the credit due it, even though at times there is difference of opinion as to the magazine as a whole.

The recent report of the officials of the Public Health Service, based on WPA survey of some 800,000 families was printed in the Chicago Tribune of January 17th, 1938. As usual, the inference was made that the poor were not receiving the care they were entitled to. But at the same time the report said, "Among these people it is apparent the inadequate diet, poor housing, the hazards of occupation, and the instability of the labor market create immediate

health problems which are not being dealt with adequately." The above statement alone places the blame where it should be, on the shoulders of those responsible for underpaying of labor. Surely the medical profession is in no way responsible for these conditions, and we feel sure that more people are furnished free medical care by the individual family physician, who knows at the time the service is rendered that he will never be paid than are given free rent and food by all the storekeepers and landlords in the nation. A portion of the $4,000,000 spent in obtaining this report would furnish a large amount of medical care even through the often criticized present manner of practicing medicine.

Recently it was mentioned in this column that the Federal Home Loan had contributed $20,000 to the Group Health Association at Washington and that the plan was being expanded to some of the other cities of the nation. Now comes another advance in that direction with the formation of "The Committee for Cooperative Medical Service for Federal Employees" under the leadership of Dr. Paul Pearson, who recently was Governor of the Virgin Islands and who might be termed a "Lame Duck." He is predicting a large membership in the near future, possibly up to 50,000 or 100,000. How much assistance they will receive from government subsidies is not stated. But remember, every such Association takes away patients from the private practitioners of the nation and increases the impetus toward state medicine.

The recent discussion of the question, "What System of Medical Care Should We Have" on America's Town Meeting of the Aair was most interesting. The presentation of the value of the present method of conducting the practice of medicine by Dr. Arthur C. Christie was very good and in our opinion much better than either of the other men. The medical profession should follow all such presentations and discuss the same with their patients.

We had hoped to have an article by the Chairman of the Council for this issue of the JOURNAL. At this time the same has not been received, so it is impossible to present it. Should it arrive in time for publication it will be included.

E. S. Hamilton,
Chairman of Committee on Medical Economics.

Correspondence

MATERNAL WELFARE COMMITTEE ILLINOIS STATE MEDICAL SOCIETY

PLATFORM FOR COUNTY MEDICAL SOCIETIES

The second meeting of the Maternal Welfare Committee of the Illinois State Medical Society was held January 9, at the Palmer House, Chicago, Illinois. The meeting was attended by the following members: Doctors Joseph T. O'Neill of Ottawa, Phebe L. Pearsall of Moline, R. R. Loar of Bloomington, Milton E. Bitter of Quincy, Walter D. Murfin of Decatur, O. H. Crist of Danville, Henry G. Horstman of Murphysboro, T. B. Williamson of Mount Vernon, John F. Carey of Joliet, Frederick H. Falls and Harold H. Hill of Chicago, James H. Hutton, Acting Chairman of the Educational Committee, Harold M. Camp and Miss Jean McArthur.

Dr. Williamson, chairman urged prompt action in selecting county groups in order that the entire state may become organized. This is necessary for the success of the movement. Dr. Williamson emphasized the fact that organized medicine was behind the movement and as the protector of the individual rights of the physician, deserved the fullest cooperation of every medical group.

So much unreliable criticism of the medical profession has been published in lay magazines that a study of the causes and correction of maternal, fetal and early infant mortality should be conducted by the medical profession and all local problems should be handled by a local group. The problem is one for each and every practitioner of medicine.

Dr. Hill spoke of the progress of the "refresher" courses held in several counties and the post-graduate courses in obstetrics to be offered this summer at the State University.

PLATFORM FOR COUNTY MEDICAL SOCIETIES ADOPTED

A platform was adopted, copies of which are to be sent to each county medical society and each Assistant Committeeman.

1. More emphasis should be placed on adequate prenatal care.

2. Greater attention should be given to eugenics rather than to birth control.

3. Every county medical society should include in its post-graduate instructions for doctors "refresher" courses in obstetrics.

4. The study of maternal deaths should be continued to determine preventability, with a committee meeting regularly.

5. A physicians' speaker's service should be organized for lay groups in each county.

6. In each county of the state a large public meeting should be held to bring to the attention of everyone the need for saving the lives of mothers and babies.

7. Greater emphasis should be placed on the value of a routine Wassermann test for syphilis for every prospective mother immediately after a diagnosis for pregnancy is made.

8. The interest of women should be secured, particularly such group as the women's auxiliary of the county medical society.

The next meeting of the Committee is scheduled for April 10, 1938, at the Palmer House, Chicago, Illinois.

T. B. WILLIAMSON,
Chairman, Mount Vernon, Illinois.
JOHN FLACEY,
Secretary, Joliet, Illinois.

THE CRONIN BROADCAST

To the Editor: I have just read the address of Doctor A. J. Cronin which was broadcast over the Broadcasting System to this country and England, December 14, 1937. His subject was "Adequate Medical Care for All." Perhaps you read it, as it was sent out by the Speakers Service Bulletin No. 10 from New York State Medical Society.

I am calling your attention to it not from the standpoint of what it is, but from what it is not as related to his subject. He points no way to the thing he has talked about. He tells two short stories about two young couples being reduced to discouragement from financial loss as a result of illness, which leaves the impression that it was due to the cost of medical service. This type of story has an appeal at a time like this. The story may be true in part to some expense for medical service, but if wholly true the application in my opinion is grossly wrong as financial loss can and does come from many sources so why so terrible when due to illness? Why has the cost of sickness become such a shocking crime? All about us are costs, even our own government charges us more for nothing than the whole medical cost of our nation. The amount the medical profession is beat out of that people might pay their liquor bills would go a long way in preventing such cases. In other words; it is a poor story for a doctor to tell in relation to the subject he chooses to speak on.

As to progress in medical science and medical service, this has never ceased, where the profession was left unhampered by government control. There always will be progress in medical service if medical minds are left to honor and love their professions.

Now why this letter? For this reason: I know our JOURNAL has an Exchange with the New York and that some comment might be in order on this address. If Doctor Cronin has something to offer constructive, we want it. We still lay undisputed claim to the healthiest people in the world, due to a medical science and service unexcelled, and yet in progress of a still better service for tomorrow if left to the medical profession.

Give our people a chance to work and lessen the cost of government and our profession will care for the sick and our patients will take care of their doctors. Let the government give what the administration cost of federal controlled medicine would be to those who are sick and that would pay the physician and save the government the cost of medical service.

CHARLES S. SKAGGS, M. D.

ANNUAL DUES ARE LOW IN COMPARISON WITH STATE SOCIETY NECESSARY ACTIVITIES

At the January meeting of the council of the Illinois State Medical Society the secretary of the society reported on the dues and activities of other state medical societies as follows:

We recently had the opportunity to review a report of activities of the various state medical societies, and the amount of the annual dues to be assessed against their respective memberships during 1938. In the 40 state societies reporting we find that the lowest of the annual dues is found in Alabama where they pay $3.00 per annum. Their activities on this small sum are very limited. Among the larger societies we find that California, Massachusetts, New York, and Pennsylvania have annual dues of $10.00.

Four societies have annual dues of $15.00, and one of these, Wisconsin, will have a special assessment of $10.00 for 1938 for the purpose of "studying the distribution of medical care." In summarizing the annual dues of 40 of the state medical societies we find that:

7 have annual dues of	$ 5.00
4 have annual dues of	6.00
2 have annual dues of	7.00
4 have annual dues of	8.00
1 has annual dues of	9.00
(With special assessment predicted for 1938)	
11 have annual dues of	10.00
2 have annual dues of	12.00
1 has annual dues of	12.50
1 has annual dues of	14.00
4 have annual dues of	15.00

The county medical society dues vary from 25c above the state society per capita assessment to $50.00, with quite a number of societies varying from $20.00 to $25.00.

In presenting this information to the Council, it is our desire to have it made a matter of record, and available to each of you when it is desired. We find that 13 of these societies will have a special assessment during 1938 for various purposes such as "to fight cult legislation," "to fight anti-vivisection," "to increase legislative activities," "basic science bill," "educational purposes," "Publicity campaigns," "to pay running expenses."

A CONGRESSIONAL APPROPRIATION DIVERTED TO BUILD UP A DENTAL AND MEDICAL CLINIC

The Home Owners Loan Corporation recently took $40,000 of money given it by Congress to build and repair homes and used it, instead, to set up a dental and medical clinic for its clerks in the Washington office. The clerks get the $40,000, rather than the home owners.

EDUCATIONAL COMMITTEE

January 1938

SPEAKERS BUREAU

60—Speaking engagements were filled by members of the Illinois State Medical Society before lay groups in the following communities:

La Grange	Peoria
Normal	Maywood
Beardstown	Atlanta
Chicago	Pana
Ottawa	Westchester
Arcola	Shabbona
Wayne	Barrington
Mazon	Aurora
Melrose Park	St. Charles
Kankakee	Elgin
Rock Island	East St. Louis
Sandwich	Springfield
Freeport	Lincoln

Excellent reports were received on many of these programs indicating that the public expects information from the medical profession concerning socialized medicine, and other subjects of interest today.

RADIO

16—Radio programs were given during the month. Many of these were in the form of dialogue.

Five hundred radio announcements were sent out to organizations in the state giving the programs for the month.

PRESS REPORT

20—Monthly health columns to newspapers.
301—Health articles to Illinois newspapers.
101—Health articles to Chicago papers.
456—Editorial Style articles to papers.
332—Copies of educational health articles to libraries.
168—Copies of educational health articles to Chicago libraries.
732—Copies of educational health articles to Home Advisers, Health Chairmen, Teachers, Mayors, etc.

Articles written and approved on the following topics:

Can You Prove That You Were Born.
Winter Time Care of the Skin.
A Fifty Year Club.
How Do You Sleep?
Maternal Welfare.
Frostbite.
Budget Your Health Resources.
Common Questions Concerning the Eyes.

21—Newspaper notices sent for Henry County Medical Society.
35—Newspaper notices sent for Jefferson-Hamilton Medical Society.
4—Newspaper notices sent for North Shore Branch.
4—Newspaper notices sent for Chicago Medical Society.

AID TO COUNTY MEDICAL SOCIETIES

137—Notices sent to doctors about Perry County Meeting.
97—Notices sent to doctors about Bureau County Meeting.
101—Notices sent to doctors about Effingham County Meeting.
288—Notices sent to doctors about Henry County Meeting.
102—Notices sent to doctors about Jefferson-Hamilton County Meeting.

SCIENTIFIC SERVICE

24—Programs arranged as follows:

PEORIA CITY MEDICAL SOCIETY
Dr. Abraham F. Lash—"Puerperal Sepsis."

PEORIA CITY MEDICAL SOCIETY
Dr. Frank L. Rector—"Cancer."

SCOTT COUNTY MEDICAL SOCIETY—Iowa
Dr. Disraeli Kobak—"Physical Therapy."

VERMILION COUNTY MEDICAL SOCIETY
Mr. J. W. Rawlins—"Malpractice Suits."

VERMILION COUNTY MEDICAL SOCIETY
Dr. J. R. Ballinger—"Malpractice."

WILL-GRUNDY COUNTY MEDICAL SOCIETY
Dr. Philip Lewin—"Low Back Pain and the Sciatic Syndrome."

PERRY COUNTY MEDICAL SOCIETY
Dr. Isadore M. Trace—"Treatment of Pneumonia."

LA SALLE COUNTY MEDICAL SOCIETY
Dr. Frank L. Rector—"The Cancer Problem."

LA SALLE COUNTY MEDICAL SOCIETY
Dr. R. T. Pettit—"Cancer of the Breast. Diagnosis and Treatment."

MEDICAL AND DENTAL SOCIETIES—BURLINGTON, IOWA
Dr. Harold M. Camp—"Our Mutual Problems and a Cooperative Program."

EFFINGHAM COUNTY MEDICAL SOCIETY
Dr. Robert S. McCaughey—"Pneumonia."

WILL-GRUNDY COUNTY MEDICAL SOCIETY
Dr. M. Herbert Barker—"Hypertension and Its Treatment."

FORT WAYNE MEDICAL SOCIETY—FORT WAYNE, INDIANA
Dr. Robert S. Berghoff—"Heart Lecture."

ROCK ISLAND COUNTY
Dr. Harold M. Camp—"Relationship between Dentists and Doctors."

WILL-GRUNDY COUNTY MEDICAL SOCIETY
Dr. Cleveland J. White—"Ringworm."

DU PAGE COUNTY MEDICAL SOCIETY
Dr. C. G. Weller—"The Present Attitude in Diagnosis and Treatment of Ureteral Calculi."

IROQUOIS-FORD COUNTY MEDICAL SOCIETY
Dr. M. E. Davis—"The Management of Prolonged Labor."

MARION COUNTY MEDICAL SOCIETY
Dr. Andy Hall—Presentation of 50 year buttons to Dr. Murfin and Dr. Richardson.

WILL-GRUNDY COUNTY MEDICAL SOCIETY
Dr. Jerome R. Head—"Early Diagnosis of Pulmonary Tuberculosis."

CHRISTIAN COUNTY MEDICAL SOCIETY
Dr. George B. Stericker—"Pneumonia."

JEFFERSON-HAMILTON-WAYNE-FRANKLIN-SALINE COUNTY MEDICAL SOCIETIES
Dr. H. Close Hesseltine—"The Management of Puerperal Sepsis."

JEFFERSON-HAMILTON-WAYNE, FRANKLIN AND SALINE COUNTIES
Dr. Ralph A. Reis—"Difficulties of Obstetrical Diagnosis."

JEFFERSON-HAMILTON COUNTY MEDICAL SOCIETIES
Dr. Eustace Benjamin—"Pneumonia."
Dr. George F. O'Brien—"Pneumonia."

SPECIAL WORK ON OBSTETRIC AND PEDIATRIC PROGRAMS

FORD-IROQUOIS COUNTY MEDICAL SOCIETIES—4 meetings planned, Odd Fellows Hall, Watseka, Illinois.
January 20th meeting—148 notices mailed to doctors, 63 press notices (Illinois and Indiana papers and doctors).

JASPER-CRAWFORD-LAWRENCE COUNTIES
Woodworth Hotel, Lawrenceville, Ill.
January 18th meeting—102 notices, 34 press reports.

COLES-CUMBERLAND COUNTY MEDICAL SOCIETY—U. S. Grant Hotel, Mattoon.
January 6th meeting—114 notices, 31 news releases.

HANCOCK COUNTY MEDICAL SOCIETY—Carthage Hotel, Carthage, Illinois.
January 10th meeting—106 notices sent to doctors, 30 news releases sent to newspapers.

JEFFERSON-HAMILTON, WAYNE, FRANKLIN AND SALINE COUNTIES.
January 27th meeting—Community Building, Benton, Illinois. 134 notices sent to doctors, 33 news releases sent to newspapers.

UNION-PERRY-JACKSON COUNTY SOCIETIES—Anna Hotel, Anna, Illinois.
January 13th meeting—235 notices sent to doctors, 22 news releases sent to newspapers.

NEW ACTIVITIES

The Committee has prepared a list of prominent people of the state and is sending them articles relating to the medical profession. Two articles have been sent to date, a reprint of an article from the Nation's Business and from a talk given by Doctor Fishbein before a Minnesota audience.

CONTACTS WITH LAY ORGANIZATIONS

The Summer Round-Up Chairmen of the Chicago districts of the Illinois Congress of Parents and Teachers held a conference in Chicago on January 28th. Doctor Gerald Cline represented the Educational Committee and spoke on the importance of the campaign and cooperation with organized medicine. More than 100 chairmen attended this meeting.

The Committee furnished a speaker for the January program of the Health Chairmen of the Illinois Federation of Women's Clubs.

Letters were sent to principals of Illinois High Schools offering to furnish short cancer programs for the student assemblies or science classes. Many replies have been received by the Committee and programs will be given in all sections of the state by representatives of the Illinois State Medical Society.

MARSHALL FIELD ANNEX WINDOW

The January window was on the importance of the periodic health examination. The February window will be a LINCOLN exhibit.

JEAN MCARTHUR, Secretary.

WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

The Board of the Woman's Auxiliary to the Illinois State Medical Society met November 20 at the Palmer House in Chicago.

Mrs. Augustus Kech, National President of the Woman's Auxiliary to the American Medical Society, spoke inspiringly to those present.

The Board will meet again January 29.

Public Relations

How can we serve the community in which we live if we are not adequately informed on what that community needs?

The Public Relations committee acts as a liaison between the Medical Society and the public.

Our contacts as Auxiliary members with lay groups are most important.

It is suggested that we serve on health committees wherever possible.

We must protect the public health, study communal health needs, see that they are correctly informed on health measures, suggesting speakers for their programs from the Medical Society, exposing pseudo-health measures and bringing information on legislative matters that would jeopardize the public health.

Stress Socialized Medicine, offer prizes to local high schools for essay on it. Suggest Panel discussion, have a doctor as one of the speakers.

All counties sponsoring laity programs having a speaker who can give an interesting talk on either a medical topic or one of import to health legislation, will accomplish a great deal towards bringing the aims and ideals of the Auxiliary to fruition.

We must encourage listening to the A. M. A. Health Programs broadcast over NBC each Wednesday at 2 P. M., E.S.T.

As a member, keep informed, read *Hygeia, Illinois Health Messenger, Auxiliary News* and *National News Letter.*

"Mrs. Charles" Celia G. Segal,
State Public Relations.

HYGEIA

There is to be another *Hygeia* contest this year, which will run from Dec. 1, 1937 to Jan. 31, 1938. There will be $150.00 in prize money awarded. This group will be divided into three groups.

Group 1, Auxiliaries with a membership of 1-49.....$50.00
Group 2, Auxiliaries with a membership of 50-199.....$50.00
Group 3, Auxiliaries with a membership of over 200....$50.00

Each group prize awarded will be based on the quota and the number of subscriptions secured. The quota for each county is the number of paid up members at the close of the fiscal year 1936.

Last year a county from Illinois won one of the prizes. This year, if every woman who is an auxiliary member will become a subscriber, Illinois might very easily win all three groups. Each of us should take this as an individual responsibility as *Hygeia* is one of the chief activities of the auxiliary. Much is expected of us as Illinois is the home of *Hygeia.*

Let us remind you that *Hygeia* makes an excellent gift. Doctors may subscribe through their auxiliaries. Special prices can be quoted to physicians who are members.

(Mrs. A. F.) Estella West Gareiss,
State Hygeia Chairman.

ILLINOIS MARRIAGE LICENSES OFF FIFTY PER CENT

A recent release from the State Department of Health says:

Presumably the result of the Saltiel law requiring prenuptial medical examinations, the number of marriage licenses issued in 94 downstate counties declined 74% during the last half of 1937 compared with that period of 1936. For the last 7 months of 1937, which includes the June rush, the decline was 55%. In Cook County the reduction was only 49% for the last half and 19% for the last seven months. Whether or not the marriage rate among Illinois inhabitants has declined is not known. Many couples have gone to neighboring States, where legal restrictions are less rigid, to be married.

Licenses issued in some of the border counties were off by more than 95% while in such centrally located counties as Macon, Peoria and Sangamon, the decline was 45%, 43% and 45%, respectively, with the June figures included. In July the number of licenses issued in all downstate (94 counties) dropped 88% below that month of 1937, was only 76% in August and was 68%, 71%, 69% and 73%, below, respectively, for each succeeding month of 1937.

Inconvenience and the cost of the medical examinations seem to be more important deterents to marriage in the State than opposition to the principles of the law. County clerks are practically unanimous in the opinion that the law which requires a three-day notice of intent to marry is superfluous since the Saltiel law requires a medical examination within 15 days prior to marriage and that the former has caused much confusion and added substantially to the decline in marriage licenses. Most county clerks have a favorable attitude toward the Saltiel law but think it impractical unless made national in scope or at least extended to all neighboring States. Practically no opposition to the law has been expressed publicly but the statistics on marriage licenses show that a majority of downstate people wishing to marry have thus far been unwilling for one reason or another to comply with its provisions.

From the standpoint of detecting venereal infections the law appears to have justified itself fully. During the first 6 months after it became effective there were submitted to the State diagnostic laboratories 30,298 blood specimens for testing for compliance with the law. Of these 479, or 1.5 per cent, were positive for syphilis. Discovery of syphilitic infection prior to marriage is considered good public health practice if it results in appropriate treatment and postponement of marriage until the danger of spreading the disease is over.

During the same 6 months 14,412 specimens for prenuptial purposes were submitted to the State diagnostic laboratories for tests for gonococci and of these 116 or 0.8% were positive. Many physicians make their own

tests for gonococci, accounting for the discrepancy in the number of specimens submitted for the two tests.

PROTAMINE ZINC INSULIN SQUIBB

Physicians will be interested to know that Protamine Zinc Insulin Squibb is now available in two strengths, 10 cc. vials of 40 units per cc. and 10 cc. vials of 80 units per cc.

Protamine Zinc Insulin has been available in the 40-unit strength since February 1, 1937. It was felt, however, that a higher potency was also needed for the many diabetics who require large amounts of Insulin daily.

While the efficiency of the two strengths of Protamine Zinc Insulin may be identical, the transfer of a patient from one strength to the other should be made only under the careful supervision of a physician until more experience has been accumulated.

Protamine Zinc Insulin Squibb is marketed under license from the Insulin Committee, University of Toronto.

BIRCHWOOD PARK SANITARIUM

Ralph B. Mitchell, Zion, was elected vice-president of the Birchwood Park Sanitarium, Howard and Western, at the annual meeting of the board of directors, Thursday, January 13. He succeeds Arthur T. Meeker, Chicago. All other officers and directors were re-elected.

Officers and directors are: Edgar B. Baumann, Winnetka, president; William A. Fox, Glencoe, secretary; Ralph W. Olmstead, Chicago, treasurer; Paul B. Kelly, Kenilworth, auditor; and Dr. Ethan A. Gray, Greenwood Inn, Evanston; Henry J. Patten, Deerpath Inn, Lake Forest; Dr. Herbert W. Gray, Roselle; and Mr. Meeker and Mr. Mitchell.

While the Sanitarium operated at a small loss, as is customary, the new budget provides for converting a large ward on the second floor into a combined library and recreation room. A committee of directors was also appointed to report on the advisability of increasing the board of directors from nine to twelve and changing the term of election.

AMERICAN ASSOCIATION OF OBSTETRICIANS, GYNECOLOGISTS AND ABDOMINAL SURGEONS

Rules Governing the Award of "The Foundation Prize"

1. "The award which shall be known as 'The Foundation Prize' shall consist of $500.00."

2. "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M. D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal surgery."

3. "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

4. "Manuscripts must be limited to 5000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

5. "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

6. "All manuscripts entered in a given year must be in the hands of the Secretary before June 1st."

7. "The award will be made at the Annual Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

8. "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meting."

JAS. R. BLOSS, M. D.,
Secretary,
418 Eleventh Street, Huntington, W. Va.

ILLINOIS PHARMACEUTICAL ASSOCIATION OPPOSES SOCIALIZED MEDICINE

At the recent Executive Board Meeting of the Illinois Pharmaceutical Association the following resolution was presented and passed and a recommendation made that a copy of this resolution be sent to your organization:

WHEREAS there is a movement on foot to popularize and foster State or Socialized Medicine in the United States, and

WHEREAS the Illinois Pharmaceutical Association is firmly of the opinion and belief that such movement is detrimental to the welfare of the medical, pharmaceutical and other allied professions and inimical to the public interest,

NOW, THEREFORE, *It Is Hereby Resolved,* that the Illinois Pharmaceutical Association places itself on record as being opposed (a) to State or Socialized Medicine, (b) to the movement of fostering same in the United States, (c) to the provision of funds for the National Government for the furnishing of medical treatment, and (d) to the movement recently started in the State of New York urging Congress to do so.

And, It Is Hereby Further Resolved, that the Illinois Pharmaceutical Association pledges its full support to and cooperation with the American Medical Association and the Illinois Medical Society in their sincere and unselfish stand against state or Socialized Medicine in the United States and in their combating any movement therefor; and that a copy of the foregoing resolutions be sent to each of said organizations.

THE SHORTAGE OF RADIUM THROUGHOUT THE WORLD

The Editorial Services, Ltd., commenting upon the shortage of radium says: More than double the present supply of radium is needed for treatment of cancer by leading United States hospitals in the East and Middle West, according to hospital authorities interviewed in a regional survey, preliminary findings recently announced this week.

Approximately 82 grams of radium are now held by the 213 hospitals in 47 cities surveyed. About 109 more grams are needed to meet treatment demands, authorities of these hospitals estimated. With radium now priced at about $25,000 a gram, the present holdings of these hospitals have a market value of approximately $2,050,000. The additional supply which hospital authorities estimate is needed would cost at present prices about $2,725,000. Fewer than 100 of the hospitals owned any radium at all.

Many large communities showed either a complete lack of the precious mineral in their hospitals, or a very small supply adequate only for limited use.

The hospitals of such cities as Des Moines, Ia., and Syracuse, N. Y., owned no radium at all. Hospitals in other communities possess in combination very limited amounts, Kansas City hospitals owning a total of about 150 milligrams, Milwaukee hospitals totalling about 240 milligrams, New Haven, Conn., hospitals about 100 milligrams and Rochester, N. Y., 240 milligrams.

Largest single radium holder is Bellevue Hospital of New York City with nine and one-half grams; another New York City hospital, Memorial Hospital, is second with eight and nine-tenths grams. Other hospitals with large radium supply are: State Institute for the Study of Malignant Diseases, Buffalo, N. Y., 8¼ grams; Michael Reese Hospital, Chicago, 6½ grams; Howard A. Kelly Hospital, Baltimore, 5 grams; American Oncologic Hospital, Philadelphia, 4½ grams; Hines U. S. Veteran's Hospital, Hines, Ill., 3 grams.

Present commercial sources of radium throughout the world are limited to two—the Eldorado mines in Canada, at Radium City on Great Bear Lake in the Canadian sub-Arctic; and the Belgian Congo mines in Africa. Eldorado, believed to be the greatest producer today, mines and refines about 5 grams a month. (It takes 1,000,000 pounds of the Canadian ore, believed to be the richest in the world, to produce one gram of this rarest of minerals in final form.)

Discovery of the rich Eldorado vein seven years ago brought the price of radium down from $70,000 a gram to its current level of $25,000. The total amount of mined radium in the world (produced since its discovery by the Curies in 1898) is generally estimated to be less than one and one-half pounds, or not quite 600 grams, not enough to make a two-inch cube.

Of about 225 grams believed to exist in the United States, the most comprehensive census to date has revealed the whereabouts of only about 100.

New York City holds about 30 grams, valued at $750,000; Philadelphia about 13 grams; Chicago about 11 grams; Buffalo about 9 grams and Boston about 5¼ grams.

NATIONAL EXHIBIT AMERICAN PHYSICIAN'S ART ASSOCIATION

The American Physicians' Art Association, a national organization of medical men who have ability in the fine arts, will hold a *first national exhibition* in the San Francisco Museum of Art, San Francisco, California, in June, 1938. (The American Medical Association Convention is June 13-17 in the same city.) The American Physicians' Art Association already has an outstanding membership. There are three classifications for membership: active, associate and contributing. The *first annual exhibition* promises to be of unusual interest with entries to be accepted (after jury selection) in the following classifications: oils, watercolors, sculpture, photography, pastels, etchings, crayon and pen and ink drawings (including cartoons), wood carvings and book bindings. Scientific medical art work will not be accepted. The exhibition is not limited to first showings. All entries close April 1, 1938. Any physician interested should communicate at once with the Secretary of the American Physicians' Art Association, Suite 521-536 Flood Bldg., San Francisco, California.

INTERNATIONAL CONGRESS FOR THE HISTORY OF MEDICINE

Royal Yugoslav Consulate General in Chicago wishes to inform you that IX. International Congress for the History of Medicine will be held this year in Yugoslavia from September 3-11 at which many world renowned personages in medicine and science and delegates of many countries will participate.

Applications to attend this Congress should be sent to: Dr. Vladimir Bazala, Secretary General of the IX. International Congress for the History of Medicine, 95 Vlaska ulica, Zagreb, Yugoslavia.

Besides prominent Yugoslav medical authorities, many eminent persons in medical science from foreign countries have already applied to address the Congress among them: Tricot-Royer from Antwerp, Belgium, Guiart from Lyons, France; Alksnis from Riga, Latvia; Castigglioni from Padua, Italy; J. D. Rolleston from London; D. A. Silva Carvalho from Lisbon, Portugal; Starkenstein and Vinar from Prague, Czechoslovakia; Zembrunski from Warsaw, Poland; Mme. A. Panayoyatou from Alexandria, Egypt; Martini and Muhlens from Hamburg and Depgen from Berlin, Germany; Suheyl-Ilver and Belger from Istanbul, Turkey; Gomoiu from Bucharest, Roumania; Capparoni from Rome, Italy; Stoyanov from Sofia, Bulgaria; Szumowski from Krakau, Poland and others.

Other applications to address the Congress should be made as soon as possible by cablegram naming the subject to be treated.

The members and delegates will meet on September 3rd at Hotel Esplanade in Zagreb, where the opening of Congress will be inaugurated with festive ceremonies.

Further meetings will be held in Belgrade, the capital of Yugoslavia; in Sarajevo and in Dubrovnik on Adriatic Seacoast.

Applications that have been already accepted for talks before the Congress comprise the following subjects:

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Mysticism and Magic in Popular Medicine; Psychogenic Diseases and Psychotherapy; History of Natural Science and Medicine; Medicine in Folklore; History of Pallidinism, etc.

Receptions have been arranged for the members and delegates to the Congress in each city where the meetings will be held with banquets and visits to museums, historical places and picturesque countryside.

Further detailed information may be secured by writing to Dr. Vladimir Bazala, Secretary General, 95 Vlaska ulica, Zagreb, Yugoslavia.

SERUM FOR MEASLES AND SCARLET FEVER

A series of bleeding clinics are to be held shortly at various points in Illinois to obtain convalescents' serum for the control of measles and scarlet fever. Local health officers and hospitals, the Samuel Deutsch Serum Center of Chicago and the State Department of Public Health are cooperating in the venture. One-fifth of the serum collected will be left for free distribution locally in communities where clinics are held. The remainder will be retained by the Samuel Deutsch Serum Center to be sold at the cost of production to any physician who so requests.

Clinics will be held on January 27 at Peoria, February 1 at Hillsboro and February 3 at Quincy. At dates to be announced later, clinics will be held at Moline, Kewanee, Elgin, Alton, Springfield and perhaps several other places.

Healthy persons over fourteen years of age who have recovered recently from measles or scarlet fever are acceptable as donors. Each accepted donor will be paid a fee of $5 and perhaps a small additional allowance for travel expenses.

Measles convalescents' serum may be of great benefit in controlling measles among young children in whom the disease is not infrequently serious. Given in proper dosage prior to the fifth day after exposure convalescents' serum usually prevents the disease entirely although immunity thus established protects a child for only a short while, two or three weeks. Given in proper dosage between the 5th and 8th days after exposure, convalescents' serum does not prevent but causes the disease to run a mild, uneventful course in most cases. Rosenau recommends 5 cc for children and 10 cc for adults injected intramuscularly. Adult serum in doses of 15 cc to 20 cc and fresh whole blood in double that dosage is effective, according to Rosenau.

Convalescent scarlet fever serum is useful as a prophylactic or for treatment when given early.

Both measles and scarlet fever are widely prevalent throughout the State. The incidence of both is likely to continue relatively high for several weeks.

Although fluctuating widely with epidemic cycles, mortality from measles has averaged about 200 deaths annually in Illinois during the last 12 years and about three-fourths of the fatalities have been among children under 5 years old.

REFRESHER COURSE IN VENEREAL DISEASES

Beginning in February the Graduate Course in Venereal Disease Control, Western Reserve University, will offer a one week refresher course in syphilis. This course will be conducted on the seminar plan with free discussion of problems in diagnosis and treatment of every type of syphilis. Part-time students will be accepted for longer periods.

One formal lecture on the several venereal diseases will be given during the week. The other phases of the subject such as intravenous and intramuscular treatments, darkfield examinations, etc., will be demonstrated.

The course is open without fees to any regularly licensed physician in any state. Further information and a copy of the working schedule can be obtained by addressing George W. Binkley, M.D., 2085 Adelbert Road, S. E., Cleveland, Ohio.

POSTGRADUATE INSTITUTE OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY

The third Annual Postgraduate Institute, offering an intensive and interesting study of the Diseases of the Digestive Tract, will be conducted by The Philadelphia County Medical Society from March 28 to April 1, inclusive.

The program to be held in the Bellevue-Stratford Hotel, Philadelphia, has been designed to meet the needs of all members of the profession, but particularly those in general practice.

Physicians from fourteen States having attended last year's institute, an invitation to attend the 1938 session has been extended to the members of all County Societies.

Lecturers, 73 in number, have been selected from among the foremost teachers in this great medical center. While approaching the subject from specialized viewpoints, the presentations will be of a strictly practical nature and of real value to the general practitioner, who finds digestive conditions occupy a considerable portion of his time.

The Philadelphia County Medical Society, in conducting the Postgraduate Institute, is meeting the demands of many physicians who believe that the organized profession should provide them with this type of opportunity for keeping abreast of medical progress, and thus maintaining the highest standards of medical service.

The only charge is a $5.00 registration fee to cover the Institute's expenses.

Additional information may be secured from your County Society or from The Philadelphia County Medical Society, 21st and Spruce Streets, Philadelphia, Pa.

NO NECESSITY FOR CIRCULATION OF PETITIONS PRESENTING PROPOSALS FOR CHANGES FOR PAYMENT OF MEDICAL SERVICES

The following statement by the Board of Trustees of the A. M. A. should be widely publicized and thoroughly digested by every physician in America:

The Board of Trustees (of the American Medical

Association) has especially authorized the publication of the following statement:

Following the publication of the report of the American Foundation Studies in Government, a small group of physicians, assembled in New York, developed certain principles and proposals which have since been circulated by a self-appointed Committee of Physicians among the medical profession of the United States, with a view to obtaining signatures in their support. During a period of approximately six months, some 430 medical men have apparently permitted the use of their names. Early in November the self-appointed group of physicians released to the press for Sunday, November 7, a statement of principles and proposals to which the names of the 430 signers were affixed. The newspapers generally heralded this action as a revolt against the American Medical Association, in a great majority of the cases indicating that there was a revolt in behalf of "state medicine." The publication of this manifesto and the attached signatures has been heralded with glee by many of those who have been opposing the American Medical Association in behalf of coöperative practice, sickness insurance, and various fundamental changes in the nature of the practice of medicine. Within the last week another series of proposals has come from another self-appointed group requesting signatures of physicians. This series of proposals includes the suggestion for enabling legislation for sickness insurance.†

The American Medical Association is an organization of physicians along strictly democratic lines. Representatives of county medical societies send delegates to state medical societies and these, in turn, send their delegates to the House of Delegates of the American Medical Association. It is possible for any physician, through his delegate, to obtain consideration of any proposal which he may wish to bring to the attention of the House of Delegates. At the Atlantic City session the delegates from New York State presented these principles and proposals, slightly modified, as an action of the House of Delegates of the New York State Medical Society. They were carried before a reference committee and, in several sessions of that reference committee, considerable numbers of physicians presented arguments for and against their adoption. The House of Delegates, however, after thorough consideration of the report of the reference committee, and with full cognizance of the method of development of these principles and proposals, and of the considerations which were involved in their passage by the House of Delegates of the New York State Medical Society, did not accept them. The House of Delegates did, however, point out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part.

Why, then, any necessity for the circulation of petitions presenting proposals for fundamental changes in the nature of development, distribution, and payment for medical service? Is there a well-designed plan to impress the executive and legislative branches of our government with the view that the American medical profession is disorganized, distrustful of its leaders, undemocratic in its action and opposed to the best interests of the people? Who may profit from such evidence of disorganization? Is there any evidence that the self-appointed Committee of Physicians and the 430 physicians who have affixed their names to these principles and proposals are any better able to represent the opinion of the American medical profession than the democratically chosen House of Delegates of the American Medical Association—one of the most truly representative bodies existing in any type of organized activity in this country today?

The House of Delegates has given its mandate to the Board of Trustees, to the officers and to the employees of the Association. That mandate opposes the principles and proposals emanating from the Committee of Physicians, and equally the new proposals. If the House of Delegates sees fit to depart from the principles now established, it will be the duty of the Board of Trustees, the officers and the employees of the American Medical Association to promote such new principles as the House of Delegates may establish. Until, however, the regularly chosen representatives of the 106,000 physicians who constitute the membership of the American Medical Association (now the largest membership in its history) determine, after due consideration, that some fundamental change or revolution in the nature of development, distribution and payment for medical service in the United States is necessary, physicians will do well to abide by the principles which the House of Delegates has established. They will at the same time deprecate any attempts inclined to lead the executive and legislative branches of our government, as well as the people of the United States, into the belief that the American medical profession is disorganized.

Members of the medical profession, locally and in the various states, are ready and willing to consider, with other agencies, ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such services and not able to meet the full cost thereof. The American Medical Association has reaffirmed its willingness on receipt of direct request to cooperate with any governmental or other qualified agency and make available the information, observations and results of investigation, together with any facilities of the Association. Thus far, no call has come from any governmental or other qualified agency, for the coöperation of the American Medical Association in studying the need of all or of any groups of the people for medical service, to determine to what extent any considerable proportion of our public are actually suffering from lack of medical care. The offer still stands as evidence of the willingness of the American Medical Association to aid in finding a solution to any or all of the problems in the field of medical care that now prevail.

DON'T FORGET YOUR INCOME TAX REPORT

The Revenue Act of 1936 amended in numerous respects the prior income tax law, but none of the

changes made relate to physicians as a class distinct from the main body of federal income tax payers.

Every one who is required to make a federal income tax return must do so on or before March 15, unless an extension of time for filing his return has been granted. For cause shown, the collector of internal revenue for the district in which the taxpayer files his return may grant such an extension, on application filed with him by the taxpayer. This application must state fully the causes for the delay. Failure to make a return may subject the taxpayer to a penalty of 25 per cent of the amount of the tax due.

The normal rate of tax on residents of the United States and on all citizens of the United States regardless of their places of residence is 4 per cent on net income in excess of the exemptions and credits.

WHO MUST FILE RETURNS

1. If gross income was less than $5,000 during 1937, a return must be filed (*a*) by every unmarried person, and by every married person not living with her husband or his wife, whose net income was $1,000 or more, and (*b*) by every married person living with her husband or his wife, whose net income was $2,500 or more. If the aggregate net income of husband and wife, living together, was $2,500 or more, each may make a return or the two may unite in a joint return.

2. Returns must be filed by every person whose gross income in 1937 was $5,000 or more, regardless of the amount of his net income and of his marital status. If the aggregate gross income of husband and wife, living together, was $5,000 or more, they must file either a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

If the status of a taxpayer, so far as it affects the personal exemption or credit for dependents, changed during the year, the personal exemption and credit must be apportioned, under rules and regulations prescribed by the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury, in accordance with the number of months before and after such change. For the purpose of such apportionment a fractional part of a month should be disregarded unless it amounts to more than half a month, in which case it is to be considered as a month.

As a matter of courtesy only, blanks for returns are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank does not excuse any one from making a return; the taxpayer should obtain the necessary blank from the local collector of internal revenue.

The following discussion covers only matters relating specifically to physicians. Full information concerning questions of general interest may be obtained from the official return blank and from the collectors of internal revenue.

GROSS AND NET INCOMES: WHAT THEY ARE

Gross Income.—A physician's gross income is the total amount of money received by him during the year for professional services, regardless of the time when the services were rendered for which the money was paid, plus such mony as he has received as profits from investments and speculation and as compensation and profits from other sources.

Net Income.—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year as stated before. These matters are fully covered in the instructions on the tax return blanks.

Earned Income.—In computing the normal tax, but not the surtax, there may be subtracted from net income from all sources an amount equal to 10 per cent of the earned net income, except that the amount so subtracted shall in no case exceed 10 per cent of the net income from all sources. Earned income means professional fees, salaries and wages received as compensation for personal services, as distinguished from receipts from other sources.

The first $3,000 of a physician's net income from all sources may be regarded under the law as earned net income, whether it was or was not in fact earned within the meaning set forth in the preceding paragraph. Net income in excess of $3,000 may not be claimed as earned unless it in fact comes within that category. No physician may claim as earned net income any income in excess of $14,000.

DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct all current expenses necessary in carrying on his practice.

A person may elect to report his income on a cash or accrual basis. He may not change the basis, however, without permission of the Commissioner of Internal Revenue. If he reports on a cash basis, he includes his fees or other income when received regardless of when earned; if on an accrual basis, he includes them in the period when the services are rendered and when charges are found to be wholly or partially uncollectible he may deduct them as bad debts in the year when so determined.

The doctors expenses are deductible if incurred in the production of income and are not deductible when they are classified as "personal" or "living."

The following items are deductable: All interest and all taxes (except federal income and surtaxes). The doctor may deduct his office expenses including salaries paid attendants or assistants, rent, telephone service, light, heat, and similar necessary expenses and that portion of his home expenses clearly allocable to the conduct of his practice; medical dues, laboratory expenses, losses by fire and other causes, the cost of supplies, medicines, instruments, medical books and magazines, furniture and other equipment (except the internal revenue department may require that those items with a useful life materially longer than one year, be depreciated during the life instead of written off); the cost of transportation in the pursuit of practice including taxi and bus fares, depreciation on cars, chauffeur's wages, gasoline, oil, repairs, etc.; amounts ex-

pended in railroad fares, hotel accommodations and meals in connection with attending meetings and conventions of medical associations; contributions to educational, religious or charitable institutions limited to 15% of the net taxable income; expense incurred by a physician in defense of a suit for malpractice in his profession, insurance premiums paid for insurance against professional losses are also deductible.

Among items of non-taxable income may be noted:

"The personal exemptions of (a) $1,000 for a single person or for a married person not living with husband or wife or (b) $2,500 for a married person living with husband or wife during the entire taxable year; (Married persons, if filing separate returns may divide the exemption as they elect) or (c) $2,500 for the head of a family, whether married or not.

"The credit of $400 for "each person (other than husband or wife) under 18 years of age, or incapable of self-support because mentally or physically defective, who received his or her chief support from the taxpayer during the taxable year."

"The credit for net earned income calculated as follows: 10% of the amount of the earned net income but not in excess of 10% of the amount of the net income. Earned income will be considered to be not less than $3,000 or more than $14,000 (for normal tax only).

"Amounts received as beneficiary of a life insurance policy, whether in lump sums, in installments or as annuities (with exceptions).

"Amounts received as gifts and money and property acquired by bequest, devise or inheritance.

"In interest on obligations of the United States, territories or political subdivisions thereof and the obligations of certain federal instrumentalities, the interest on whose obligations is guaranteed by the United States (for normal tax only).

"Compensation paid by a state or political subdivision thereof to its officers or employees for services rendered in connection with the exercise of an essential governmental function."

DEPRECIATION ON STOCK AND EQUIPMENT

Equipment comprises property of a more or less permanent nature. It may ultimately wear out, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using."

The cost of equipment, for professional use, cannot be deducted as expense in the year acquired. Examples of this class of property are automobiles, office furniture, medical, surgical and laboratory equipment of more or less permanent nature, and instruments and appliances constituting a part of the physician's professional outfit, to be used over a considerable period of time, generally over one year. Books of more or less permanent nature are regarded as equipment and the purchase price is therefore not deductible.

Although the cost of such equipment is not deductible in the year acquired, nevertheless it may be recovered through depreciation deductions taken year by year over its useful life, as described below.

No hard and fast rule can be laid down as to what part of the cost of equipment is deductible each year as depreciation. The amount depends to some extent on the nature of the property and on the extent and character of its use. The length of its useful life should be the primary consideration. The most that can be done is to suggest certain average or normal rates of depreciation for each of several classes of articles and to leave to the taxpayer the modification of the suggested rates as the circumstances of his particular case may dictate. As fair, normal or average rates of depreciation, the following have been suggested: automobiles, 25 per cent a year; ordinary medical libraries, x-ray equipment, physical therapy equipment, electrical sterilizers, surgical instruments and diagnostic apparatus, 10 per cent a year; office furniture, 5 per cent a year.

The principle governing the determination of all rates of depreciation is that the total amount claimed by the taxpayer as depreciation during the life of the article, plus the salvage value of the article at the end of its useful life, shall not be greater than its purchase price or, if purchased before March 1913, either its fair market value as of that date or its original cost, whichever may be greater. The physician must in good faith use his best judgment and claim only such allowance for depreciation as the facts justify. The estimate of useful life, on which the rate of depreciation is based, should be carefully considered in his individual case.

In a Treasury Decision, approved Feb. 28, 1934, No. 4422, it is held, among other things, that

"The cost to be recovered shall be charged off over the useful life of the property.

"The reasonableness of any claim for depreciation shall be determined on the conditions known to exist at the end of the period for which the return was made.

"Where the cost or other basis of the property has been recovered through depreciation or other allowances, no further deduction for depreciation shall be allowed.

"The burden of proof will rest on the taxpayer to sustain the deduction claimed.

"The deduction for depreciation in respect to any depreciable property for any taxable year shall be limited to such ratable amount as may reasonably be considered necessary to recover during the remaining life of the property the unrecovered cost or other basis."

Oculists who furnish spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.

FORMER ATTORNEY GENERAL ATTACKS SOCIALIZED MEDICINE

THE FOLLOWING IS REPRODUCED FROM THE ILLINOIS DENTAL JOURNAL, 1937

Socialized medicine was attacked as a fallacy by Thomas D. Thacher, former solicitor general of the United States, in an address at the annual meeting

of the New York Academy of Medicine at Fifth Avenue and 103rd Street.

Mr. Thacher challenged also the constitutionality of socialized medicine under the proposed system of compulsory health insurance. He added that the states had no power to enforce for such insurance a sliding scale of costs between those in the upper and lower income brackets, or to take the money or property of the rich and give it to the poor. "Generosity in relieving distress is characteristic of our people, and particularly characteristic of your profession," he said. "But we prefer to do our own giving."

Mr. Thacher, who is also chairman of the New York City Charter Revision Commission, said that the fallacy of Socialized medicine was that it would blanket the country without regard to local conditions and individuals.

"To put it concretely," he said, "figures indicating averages for the whole of the United States are made the basis for the universal application of a single remedy without consideration of the local conditions under which it is applied. This is a peculiarly erroneous method of thought, and an extraordinary dangerous method of action."

Mr. Thacher pointed out that even the majority on the Committee on the costs of Medical Care did not favor attempting to impose upon the country or upon any community, a preconceived plan for the reorganization of medical service. On the contrary, he said, it pointed out the needs of the profession and of the people, which should be met in a process of evolution by which the profession could more effectively serve the people and be more adequately paid.

Mr. Thacher said that if the plan was to be compulsory it must have force of law and in that event might be authorized only by state legislation. "Ordinarily," he continued, "a state legislature will and must have regard for local conditions and local institutions. If, however, the Federal government, following the pattern of the Social Security Act, should provide Federal appropriations in aid of compulsory health insurance, provided for under state statute, then pressure upon the legislatures of the states to set up such systems at the cost of the Federal government might very well result in such enactments without due consideration of the local institutions and the local needs.

"Serious question would certainly be raised as to the constitutional validity of such laws if they are made compulsory and if there is discrimination in the cost of such insurance as between those in the upper and those in the lower income brackets," Mr. Thacher said. "It is a great temptation to be charitable with other people's money, but the Constitution denies that privilege to the Legislature, although this limitation may sometimes be avoided through an exercise of the taxing power."

Mr. Thacher pointed out that the services of all the great hospitals, dispensaries, clinics, health stations and maternity centers, with all their equipment and technique, were available to the poor of the city. In addition, he said, W.P.A. workers and those on relief got medical and nursing care free. He said the problems in the South, where 5,000,000 persons live beyond the reach of medical and nursing care, were economic, and he contrasted this with the problems in New York City, adding that "such problems will not be solved by preconceived plans predicted upon statistics and average drawn from all over the United States."

FREE HOSPITAL SERVICE AND VOTES FOR POLITICIANS

The A.M.A. regular Paris correspondent under date of September 11, 1937, has the following to say of the medico-political trend in France:

"There is a constantly growing wave of complaint against the extension of free hospital care to those well able to pay for it. At first this abuse was chiefly confined to the larger cities of France, but there is abundant evidence to show that it is assuming huge proportions in villages. Quite often well-to-do patients are sent to the nearest public hospitals as free patients by the mayors or aldermen of smaller communities in order to obtain votes at subsequent elections. A number of examples of such abuses have recently been published in the *Concours médical*, which journal advises practitioners to file protests through their local societies. Until recently, only medical men in larger cities were affected and the country practitioner thought himself immune, but it is now his turn to feel the inroads on his income by this wave of socialization of medicine in France, which has reached alarming proportions.

GOVERNMENT NEVER CREATES A GENIUS

It is said that in one country, where the government controls the practice of medicine, there are 36,000 panel physicians and 32,000 clerks (politicians) to look after them. That's one trouble with government control—too few producers and too many clerks!

We have no quarrel with those who believe that the indigent should have the advantage of competent medical care. Their right to medical care and hospitalization is evident.

Freedom to select one's physician or surgeon has always been the inherent right of American citizenship. Under the American system the public health has been secure, and the profession of medicine has made tremendous progress.

The arts and sciences cannot be regimented. When government steps in, the incentive to creative progress dies. Government never creates a genius.

There are still great discoveries for the alleviation of suffering and the conservation of human life waiting to be made.

State medicine, controlled by political influence, will never produce a Lister, a Pasteur, a Harvey, a Curie, a Morton, or a Long.

We still have faith in the American system as it applies to the profession of medicine. We have faith that Congress will know that it has a mandate from the American people that State Medicine "cannot happen here."—*Patchwork.*

Original Articles

CORRELATION OF SECRETARIAL DUTIES IN THE STATE MEDICAL SOCIETY

HAROLD M. CAMP, M. D.
Secretary, Illinois State Medical Society
MONMOUTH, ILL.

In selecting this subject, it is my desire to call to the attention of all secretaries the necessity of a cooperative program on the part of the component medical societies throughout the state, and also of the Illinois State Medical Society. Realizing again that the county medical societies are the basic units of our modern medical organizations, it is quite obvious that the work of the State Medical Society is dependent on the actions of the many component units.

There has never been a time in the history of our medical societies when it was more necessary that we work together constantly for the best interests of the medical profession of Illinois than today. It has been stated many times in recent years that if every physician in this country was an active member of his county medical society, we would have little occasion to fear the enforcement upon us of some system of subsidized medical practice.

We use the term "active member" advisedly, for unfortunately all members of our county medical societies are not actually active in the work of their society. As a chain is no stronger than its weakest link, we might truthfully say that a county medical society is no stronger than its weakest members, for today more than ever before, we need not only 100% membership, but also 100% activity in our societies.

The work in the office of the Secretary of the State Medical Society necessitates constant contact with all component societies, and complete cooperation at all times if we hope to be successful in our endeavors. County Medical societies should not be considered weak or strong in the proportion to the membership, for some of the best societies in this, and all other states, are those with only a few members.

We have in mind a county medical society in a county with only six practicing physicians, and five of them active members of their society. Formerly this county had ten or a dozen physicians, and in the by-laws seven members constituted a quorum. In recent years it was impossible to have a quorum at the meetings, and it required a special order from the Council of the State Medical Society, and the presence of the Councilor for that District to amend the by-laws so that the meetings could be made legal.

The duties of our secretaries, both in the county and state societies, have multiplied enormously during the past few years, with the ever increasing demands for some new type of service. Among these we can mention Federal and State requests for programs for providing medical care for unemployed indigents, injured W. P. A. and other Governmental Agency workers, and more recently, the request for a plan to provide medical care to clients of the Rural Resettlement Administration. Cooperation of county medical societies and their members in the country wide program for the eradication of syphilis has also consumed a considerable amount of our time.

Whenever requests for these unusual services have been made of our societies, they have invariably cooperated in a most commendable manner.

We have at this time, 90 component county societies in Illinois, which means that the office of the Secretary of the Illinois State Medical Society must keep individual records of the membership of each of these units. In the State Society Secretary's office we use a master card for each county medical society, and when a remittance is received, it is promptly credited on individual membership cards to those members designated to receive the credit by the country society secretary. We are compelled to show a credit for each year of membership of every member, and frequently when a component society secretary issues a membership card and receipt to a member who is delinquent for one or more years on our records, it naturally causes a discrepancy in our respective records of that member.

The House of Delegates and the Council during the past four years, have recommended that this ruling be waived only in deserving cases where members have suffered a loss which makes it impossible for them to clear up the delinquency, and where there is a reasonable assurance that they will continue the membership and pay their per capita assessment promptly in

Paper presented at the Secretaries Conference, Peoria, May 18, 1937.

succeeding years. This ruling has necessitated the clerical force in our office making an investigation in every case where the secretary recommends that the usual ruling be waived. Dues in the Illinois State Medical Society are lower than in any of the larger state medical societies in the country, and many of the smaller societies assess each member from two to three times as much each year as we are paying in Illinois.

The By-Laws of this Society specify certain conditions under which members may receive Emeritus Membership with all benefits of active membership, but without paying the annual assessment. These members must have attained the age of 70, and their membership in the Illinois State Medical Society must have extended continuously over a period of 35 years. A few exceptions have been made to this ruling in the cases of elderly members who could not actually qualify for Emeritus Membership, but who are physically disabled and unable to engage in their regular work.

A considerable amount of confusion has arisen in the past when members have moved from a county, or perhaps have died, and this information has not been promptly reported to our office. Occasionally a member pays his annual assessment early in the year, and dies within a short time. With a credit for that year, we retain his name on the membership roster in accordance with the By-Laws until the last day of December in the following year. When the death is not reported, we may receive no information relative to the death of this member until nearly two years have elapsed.

We have had one or two societies remitting $7.00 for each member to the present time even though the dues have been $5.00 for the past three years. This oversight, or as we might term it, "over generosity" has been reported to the society repeatedly, and has only recently been straightened out.

Every member of the Illinois State Medical Society is entitled to receive the ILLINOIS MEDICAL JOURNAL each month, but occasionally a secretary informs us that a member, entitled to the JOURNAL, has not received it for more than a year. When any member fails to receive a single copy of the JOURNAL, this should be promptly reported to our office, and we will see that this error is corrected immediately. The JOURNAL uses an automatic addressing machine which has a slug with the name and address of each member. Occasionally a slug is thrown out of the machine, and we have no knowledge of this until the complaint is sent in to us.

It has been our practice during the past year with the consent of the Council, to send a return postage paid envelope for special information desired from county medical societies. Even though there is no expense assessed to the secretary for postage, we occasionally fail to receive the desired information until additional letters are sent requesting this information. Many times the failure to submit information requested, holds up the releasing of an important report, and this naturally causes confusion elsewhere.

When questionnaires are sent to component society secretaries, they are sent at the request of some committee, the Council, or occasionally as the result of a request received from the American Medical Association. These questionnaires should be returned as soon as possible so that we may refer the desired information to the individuals requesting it.

Another source of confusion arises occasionally when a member moves from a county and the removal is not reported to us. The member applies for admission to the county society where he now resides, is accepted, and then reported to this office as a new member. A new card is made out for this member in the new location, and for several months we may have duplicate cards in two county societies for the same member. We must depend on the secretaries to report removals of members promptly, and not wait until the annual membership report is submitted to give us this information.

Although the county medical society is the sole judge of the qualification of its members, great care should be taken when recent additions to the profession in the county desire to become members. Many times statements of the prospective member relative to past membership in other societies are accepted without investigation, and later the society learns that their judgment in the action taken was an erroneous one. It is easier to keep a questionable or unethical practitioner out of the society than it is to kick him out after he has become a member.

Again we desire to call to the attention of all secretaries that in any questionable cases, you have access to the biographic files of the Amer-

ican Medical Association where complete information relative to the actions of all physicians in the United States is filed. Many time information concerning the past behavior of prospective members can be obtained from these files which will enable the board of censors to more wisely render their report to the County Society.

We would urge the county society secretaries to report as early as possible, all new members admitted to the society, not even waiting until a number of remittances are received, so that they may be sent in for the proper credit. The total membership count in our state society varies each week, and in order that we may have available at all times, an accurate count, this information will be of much service.

It is not our intention to present this short paper as one made up largely of complaints, but to stress particularly the necessity for a general cooperative program to enable both the state and the county medical society to work together in complete harmony.

It is the county medical society secretary who is largely responsible for the holding of successful meetings. He usually arranges the programs, sends out all announcements, and is expected to get the members out to the meetings. If the program is not satisfactory, he usually gets the blame, while if the meeting is thoroughly enjoyed, he does not care for the credit at all.

The ILLINOIS MEDICAL JOURNAL in February, 1922, published an interesting article entitled, "How to Kill a Medical Society" which we believe is worth repeating fifteen years later.

1. Don't come to the meetings. If you do come late.

2. If the weather doesn't suit you, don't think of coming.

3. If you attend a meeting, find fault with the work of the officers and other members.

4. Never accept office, as it is easier to criticize than to do things. Nevertheless, get sore if you are not appointed to a committee; but if you are, do not attend the committee meetings.

5. If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say.

6. After the meeting, tell everyone how things ought to be done.

7. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the organization is run by a clique.

8. Hold back your dues as long as possible; or don't pay at all.

9. Don't bother about getting new members; let George do it.

It is my opinion that the above should be typed in large letters and posted in the meeting places where all members will see it. If this is done, we would also recommend that a 1937 postscript be added to the above pertaining to the satisfactory operation of a medical society through proper participation of all members:

1. Attend all meetings regularly.

2. Take your turn in preparing and developing the programs.

3. Aid in getting all eligible non-members into your Society.

4. Make talks when invited to do so before your Society and participate in the discussions at the meetings.

5. Make talks before various lay groups to do your part in the general educational campaign of organized medicine.

6. Treat your fellow physicians as you would have them treat you, and remember you are fellow human beings.

7. Avoid all insinuations in your office or in the homes where you see patients that may be construed in any way as being detrimental to a fellow practitioner.

(Recent studies of 1,500 mal-practice suits filed against physicians show that approximately 50% of them develop as a result of statements made by another physician.)

8. Pay your dues promptly, and always be a booster for your,

COUNTY MEDICAL SOCIETY

Today we see a rapidly changing world. Conditions have developed which would have been considered impossible twenty years ago. With the labor disturbances, political demands, proposals to change our form of Government, and with an ever increasing number of adherents to Communism, we must be ever alert to avoid eventual catastrophe. H. G. Wells some years ago made the statement, "We must have education, or we will have catastrophe." Contrary to the opinion of many who read this statement, Wells referred to the education of adults, and

nce of the younger generations in our public schools.

In our educational considerations, the campaign for the education of adults as well as the youth of America in health matters, is of utmost importance. Medical Societies and medically trained individuals must be leaders in all health considerations, and a complete uniformity of ideas and ideals is essential if we hope to be successful in our endeavors.

The county medical society, although the basic unit of our medical organization, needs the guidance of the parent organizations, and through a complete cooperation on the part of our secretaries, we can best accomplish our aims.

When secretarial duties in our State Medical Societies are thoroughly correlated, we will have overcome one of the major difficulties on the road to success.

RETROSPECT AND PROSPECT

R. L. Green, M. D.

PEORIA, ILL.

It is a pleasure to appear before you again. Last year you were called "the wheel horse" of the organization, because you guide the workings of your county society. You cannot keep your light under a bushel, keep it trimmed and timed with changing times.

Today, more than ever in our lives, there must be a closed union in our organization; that sounds very commercial with a flavoring of trade unionism. Your science, your art, your practice, are being encroached upon from all sides, with the commercial side pushing hardest. All sorts of economic quirks are being used to break down our ancient, honorable profession. The "Forum" spoke of us as living in horse and buggy days. Well, I take exception to this to contend that we know more about the dry goods business than Mr. Filene does about medicine. Yet he is the one to help finance the survey cost of Medical care, etc., and he has given time and money to this cause.

The Rosenwald Foundation ding dongs about Medical care, but in the Sears Roebuck organization they cut the man down in time when his per cent. runs up to anything like a living wage. So you may be sure what they would think of doing to doctors' incomes.

State Medicine—We have it. Look at your state hospitals. The supply of medicine clear up to supply of nurses and doctors are inadequate for the number of people handled, because of lay people who figure with the blue pencil at headquarters to direct that a doctor should care for so many people per hour like an assembly plant. One of my patients said this is what he liked about the Mayo Clinic—each man took care of a certain part. Theoretically, this sounds good; practically, Group Practice has not been such a success in different parts of the county—resolving back to why your state officers have fought all the schemes. The "patient-physician" relation is strained when a third party enters the contract and more strained if that third party is a lay person—even a nurse.

The fight has been kept up by your officers because the theory and practice of the various two hundred schemes submitted fail to measure up to our standard.

We have been assured the President will not try to put forth Socialized Medicine.

We must not be lulled by this, for Mr. Epstein has been working all the strings setting the stage differently.

In the *Literary Digest,* January 30. he has an article again showing the way the model bill will be introduced. There are now so many social workers under all kinds of names, each wishing to perpetuate his own job, and help some friend or relative to one. They bring pressure to bear on the legislator that is hard to resist as they count the votes—one by one.

I want to accent a thing here to show what united effort of our County Society has performed. One Alderman was obnoxious to our medical program; several doctors bought space in the newspapers, telling the truth about him and his medical stand. He was beaten. We now have through this same committee a new law passed by the state, and voted overwhelmingly by the city of Peoria, an independent board of health. This is such an outstanding achievement that the guiding hand should stand up. I ask the Chairman of this committee, our new delegate from Peoria County, Dr. Rutherford.

It is your duty to yourself as well as to your county society to keep the team pulling together, regardless of party denomination. Think only

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Read before Secretaries' Conference of Illinois State Medical Society, May 18, 1937, at Peoria.

in terms of what is the candidate's position on Health.

I wish to remind you again to keep your public relation committee upon its toes. Articles for press and radio are not for the personal aggrandisement of any one doctor, but for good of all.

Your local society may be small, and the meetings a little slow—primarily they are for the exchange of ideas to develop a different line of thought about some old topic. Let me remind you of the wonderful work of your educational committee. They have speakers for you ready to go on a very short notice with everything up to a full refresher course by a group.

Do not fail to avail yourselves of this wealth of material. If you do not want to go before a lay group—parent-teacher or club, write to Miss McArthur.

We can only win our battle against State Medicine by a united front. We do not want to have a "sit down strike." Sounds ridiculous, but they had one in Cuba, one threatened in Germany, and one was pulled in Great Britain.

You have had notice from our efficient State Secretary of your membership standing, recommending to you the eligible members in your counties. Tell your membership committee that the state officers cannot go out and get these men into meeting, and that you know their personal worth, which must not be lost sight of in case you have to go to his defense. The young men should be encouraged to come and bring the new ideas of their school to help the older men out.

At the economic conference, February 14, a university Dean said old men were those out of school five years. The man out ten years without post-graduate study was counted down the list. This economic conference, mostly officers of State Societies of the central states, bring together ideas of cooperation. We had as a sample three men in two meetings from the government on rehabilitation of farmers poor beyond hope of any but governmental aid. The program of medical care if written in as first proposed would have been state medical care for the family at $25.00 per year. We stopped all this. Sounds easy, but two meetings of four hours each are not so easy.

In closing, we want your full cooperation to get all the members you can. When Dr. Camp writes, answer promptly. When Dr. Neal sends out an S.O.S., tell your men to bear down on the legislator to contact his family doctor. Your councilor will help you put on an afternoon and evening refresher course for the counties in his district.

It is only by full team play, every man helping the other to meet our problems, medical, social and economic, and your office is the clearing house.

MEDICINE IN AN EVOLVING SOCIETY

J. R. NEAL, M. D.
Chairman, Legislative Committee
SPRINGFIELD, ILL.

Economic recovery has been rapid during the last few years. Social readjustment to the circumstances of returning prosperity has taken place very slowly. Technological improvement, on the one hand, and an aging population, on the other, have added to the difficulties of providing permanent employment for a great many people. The distressful experience of poverty intensified by the depression is still fresh in the memory of those who suffered most severely. A feeling of insecurity and uneasiness about the future is widespread. An atmosphere of restlessness and doubt prevails throughout the country. A large share of the population look forward with little hope of acquiring security against essential necessities through their own unaided efforts. They look naturally toward the government for help.

This situation is fertile soil in which the seed of social reform and change take root and flourish. Sensing the opportunity, the genuine, philosophical reformer, along with the would-be reformer, the agitator and the exploiter, are busy with plans and programs. Each is offered as the one and only valid means of salvation for the country and for society. Evidence of this trend is found on every hand.

The proposed change in the Supreme Court, for example, has kindled the fires of bitter controversy and strife. The Wisconsin Legislature has under serious consideration with the support of the Governor, a bill which competent observers believe would establish the foundation for a socialistic government in that State. Mayors and governors representing large populations have petitioned the President to continue the policy of

Read before Secretaries' Conference, Illinois State Medical Society, May 18, 1937, at Peoria.

federal relief. The leading educational organizations of the nation have endorsed a plan of public education which would give the federal government control through subsidies over the public school systems of the nation. Labor disputes are widespread. The influence of organized labor is in ascendency. The spirit of change and readjustment in the social order is at large.

Medicine has not been overlooked by those who would create a new society in a new world. The practice of medicine is rightly considered as a fundamental factor in social life. Many of the plans put forward with respect to change, however, appear to assume that the medical profession is not aware of this fact. They presume that the practice of medicine has been and continues to be static. The proponents of these plans either refuse to see or are blind to the ever changing progress and adjustments made by medicine to meet new situations. They offer the idea of compulsory health insurance as a panacea of medical care.

That compulsory health insurance is under serious consideration in the minds of many people cannot well be doubted. The subject was brought forcefully to public attention in 1932 by the Committee on the Cost of Medical Care. A system of health insurance was included in the original draft of the Social Security Act. Since 1932 the principle of health insurance was endorsed in resolutions adopted by the American Federation of Labor at three different annual conventions, the latest in 1936. More recently the subject has been publicly revived by the report of the American Foundation. While no specific conclusions were drawn and no recommendations made in this report, the views and opinions gleaned from 2,200 physicians were so presented as to emphasize the subject. Newspapers were quick to exploit the idea.

On what grounds are the schemes of health insurance built? Does the free availability of medical service lead to its intelligent use? Experience in European countries offers no proof that the general health has improved under health insurance schemes. Evidence assembled from various sources in this country fails to show that any advantage would be gained by such a system. This evidence is based upon the experience in the United States Army, on several local projects in socialized medicine and on studies of prevailing health conditions in the general population.

Medical service in the Army is equivalent to the best that might be expected from any form of compulsory health insurance. It is valid, therefore, to compare the health of the Army with that which prevailed among 39,000 people in the general population where the family incomes ranged upward from $1,200 with the majority falling in the $1,200 to $2,000 class. Among these 39,000 people about 40% were children, while the Army is made up of selected males in the vigorous age of life.

In 1935, according to the annual report of the Surgeon General, there were 585 cases of illness and accidents per 1,000 officers and men in the Army. Among the 39,000 civilians there were 516 cases of illness, accidents and pregnancies per 1,000 men and women and children which caused the loss of as much as one day from work, school or other occupation. For all illnesses including inconsequential colds and headaches, the rate among the civilians was 850 per 1,000 individuals. In the Army a physician saw every case of record. Among the civilians a physician saw 79% of all cases and 85% of those that resulted in the loss of one day or more from usual occupation. The health record of the 39,000 civilians was collected by the U. S. Public Health Service through nurses who visited each of the 9,000 families involved once a month for a year.

Comparing the Army experience with that of 174,643 male industrial employees a similar situation is found. From diseases alone the lost time in the Army amounted to 8.6 days per man in 1935. Among the industrial employees the average lost time in 1934 from sickness and non-industrial accidents causing disability for one week or more was only 3.9 days per man. While these figures are not strictly comparable, because of the one-week factor in the lost time of the industrial workers, it is unreasonable to believe that the less serious illnesses caused a greater volume of lost time than did those of longer duration.

From these records of experience it is clear that compulsory health insurance, like that which prevails in fact in the Army, adds nothing to the health advantage of those concerned.

Another interesting study was conducted by the Metropolitan Life Insurance Company. In a

census of 6,245 children between the ages of six months and 15 years it was found that 4,749 were not protected against diphtheria. Inquiry revealed that the parents of one-half of these unimmunizd children had merely neglected the matter. They knew that inoculation was safe, effective and cheap. They believed in it. They could afford the cost. They had simply lacked the urge to have it done. On the other hand, diphtheria has been practically eradicated from many cities through the vigorous work of health departments and the medical profession. Public health service with the cooperation of the medical profession rather than compulsory health insurance accomplished this improvement.

More illuminating still are the records of health in several communities where socialized medicine is practired. In Roanoke Rapids, North Carolina, three cotton mills, a paper mill and an electric power company operate a health insurance scheme for the benefit of their employees and dependents. The municipality had a population of 3,404 in 1930 while the industries employ about 5,000 people. Most of these live in the community. It is reasonable to assume, therefore, that the results of the socialized health service should be reflected in the health conditions of the community. Statistics from the North Carolina State Board of Health show that the average annual maternal death rate in Roanoke Rapids for the five years ended with 1935 was 8.3 per 1,000 births. The average rate in Illinois for the same years was 5.4. The average annual infant morality rate for the period in Roanoke Rapids was 101.0. In Illinois it was 51.9. The average annual death rate in Roanoke Rapids from diphtheria was 12 per 100,000 population against 2.9 in Illinois; from typhoid fever it was 18 against 1.5 in Illinois; from whooping cough it was 48 against 2.7 in Illinois and from tuberculosis it was 53 against 55 in Illinois. The average annual prevalence rate of diphtheria in the three years ended with 1936 was 421 per 100,000 in Roanoke Rapids against 28 in Illinois. The Roanoke Rapids case rate from whooping cough was 1,570 against 155 in Illinois; from typhoid fever it was 60 against 10 in Illinois; from tuberculosis it was 254 against 120 in Illinois. This is the story in a community where a prepayment health insurance system has been functioning for the benefit of a majority of the population for more than a decade.

A similar situation prevails in Endicott, Johnson City and Owego, New York. In these cities the Endicott-Johnson Shoe Manufacturing Company provides a complete medical service for their employees and dependents which constitute a considerable proportion of the population. The average annual infant death rate in each of these cities has exceeded the rate for the whole state of Illinois for the last three years. Mortality from infantile diarrhea has been at a considerably higher rate in those cities than in Illinois. The general death rate was sharply higher in those cities than in Illinois. The socialized medical service of the Endicott Johnson Company was inaugurated in 1916 so that ample time has elapsed to prove its influence on community health.

The record of experience, therefore, gives no valid evidence that the general health is protected better under systems of socialized medicine than otherwise. Nothing can be gained by such a scheme while it opens the way for grave abuse.

I have devoted a good deal of time to discussing health insurance because that problem is by no means settled in this country. An adjustment in the system of medical practice so as to provide more adequate care for the poor is imperative. The dominant trend of public thought and of legislative action is toward collective bargaining and collective activity. Medicine must adjust itself to this situation in order to prevent the imposition of impractical, non-productive and uneconomical health insurance schemes.

Just now, the public is aroused and rightly so over the venereal disease problem. The magnitude of prevalence and the possibilities of control and prevention, particularly of lues, have been impressed upon the public. The idea of eradicating syphilis has appealed to the popular imagination. This is reflected in a bill before Congress which would appropriate $25,000,000 for venereal disease control alone. It is shown likewise in a bill making premarital physical examinations compulsory which has passed the House of the Illinois General Assembly. It is indicated by demands by local communities for State aid in establishing social hygiene programs.

Solving the problem of syphilis is largely a matter of diagnosis, treatment, epidemiology and patient follow-up. Handling this matter judiciously will have an important influence over the trend of expanding medical care throughout the whole field of medicine. Close cooperation be-

tween the medical profession and the public health authorities will result in sound practice from every point of view.

Health departments are in a position to guide public thought and determine to a large degree the trend of public action. They need the sympathetic and active cooperation of the medical profession.

Health departments prefer to leave the matter of treatment to the private practitioner. Prevalence records show, however, that treatment has been inadequate and diagnosis far from complete in the past. Working together the health officer and the private physician can remedy this situation satisfactorily. Through the free distribution of drugs, the extension of laboratory and epidemiological service the department of health can reduce the cost of treatment and uncover the sources of infection. Through subsidies from the State, local clinics under local control can be maintained for the treatment of the indigents. The success of such a plan will depend, however, upon the hearty cooperation of physicians in case reporting and in utilizing the services offered for diagnosis, contact-investigation and follow-up.

Much the same may be said with respect to other communicable diseases. Support of the public health program will do a great deal to defeat the movement toward health insurance. Public health service as practiced in Illinois and in the nation generally is largely a matter of education of the public and of special services to the medical profession. It makes possible the control over communicable diseases to a degree that could not otherwise be attained.

The medical profession in the past has been too prone to be an opposition party. This attitude has tended to cultivate popular disfavor of organized medicine. Alignment of the profession with sound programs of public health will correct this tendency and check the movement toward State medicine in the form of compulsory health insurance.

Social conditions are unsettled. Reform is the order of the day. Medical practice is a matter of deep public concern. Guiding the trend of changes which are bound to come will require sound thinking and a clear vision. County medical Societies are faced with the opportunity of moulding public opinion and shaping the future of medicine through educational efforts. I commend these matters to your serious consideration.

DEFINITION OF SOCIALIZED MEDICINE

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Socialized medicine designates the furnishing of medical services which are paid for with funds collected from groups of individuals or with funds established by philanthropy or taxation.

State medicine is that form of socialized medicine under which personal and individual medical services for persons in the general population are furnished by government employees who are paid out of tax funds.

It is evident that "socialized medicine" is a very broad term, by which is usually meant the payment for medical services by any means other than directly by the individual patient to the individual physician. Accordingly, the practice of medicine is socialized in many respects. There are records of over a thousand plans throughout the United States whereby groups of patients arrange to pay for the medical services of the individual member. These plans include industrial medical service systems, medical and hospital benefit organizations, mutual benefit associations, trade union plans, fraternal or lodge plans, group medical practice plans, community health associations, and college student health services. Under a number of other arrangements, the individual patient often receives medical services without being required to pay at all, or without directly paying the physician. The more than two thousand outpatient departments of hospitals, and the more than four thousand independent clinics are examples of arrangements whereby persons receive medical services free or without directly paying the physician. The independent clinics include all public health clinics and so-called curative clinics.

The term "state medicine" should be restricted to the attempts of the government to provide medical services through salaried employees directly to individuals in the general population. I believe socialized medicine to be injurious to the best values of medicine, in that it will produce but a perfunctory and impersonal medical service. It is interesting to observe that medical care of the indigent paid for by the state with the services rendered by independent physicians, as now furnished under emergency relief,

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is socialized medicine; when the services are rendered by a salaried city or county physician it becomes state medicine.

The Medical League for Socialized Medicine insists that socialized medicine calls for a system of complete medical service available to all citizens at public expense. The League indicated the following difference between socialized medicine and state medicine:

Socialized Medicine implies a system of free medical care and practice sponsored and financed by the state, responsible to the state, and organized, operated and regulated democratically *by the medical and allied professions.*

State Medicine implies the very same thing as above, except that the system of medical care and practice would be organized, controlled and regulated BY the state FOR the medical and allied professions.

The public in general wants evolutionary progress in everything—not revolutionary upheaval. The public in general finds no real dissatisfaction with the kind of medical service it is receiving. It finds that under the present medical system American preventive medicine is not equaled anywhere in the world; that American sickness and death rates are lower than in any other country. The private physician in America actually makes preventive medicine part of his practice.

The patient knows that free choice of physician will be restricted or prohibited under a program of socialized medicine, as the leading physicians with more independence will not become a part of a socialized medicine scheme. Medical attention will become a mechanical system rather than a personal service. Mass production methods will be used. The patient will lose the advantages of the confidential patient-family physician relationship wherein the individual needs of every person are recognized, and if ever a human being wants to be an individual—it is when he is sick. The very sick patient will not obtain adequate service because of the demands for unnecessary minor services by shams and neurotics. The quantity as well as the quality of service will be reduced through efforts to cut down costs.

The employed person in this country does not want socialized medicine, for he realizes all too well that it means less wages and more taxes. The employed person prefers to purchase his own medical care and other necessities when and from whom he pleases in the true American way.

Over 100,000 physicians in the United States do not want socialized medicine, as it would furnish to the people a medical service limited in scope and would destroy public confidence in the medical profession. The physician has a sacred obligation to maintain the *quality* of medical care. The physician does not want the noblest of professions to become a political football, with favoritism and patronage resulting in slip-shod diagnoses and neglected treatment of patients.

WHO WOULD PROFIT BY SOCIALIZED MEDICINE?

(a) The profit seeker—such as insurance carrier, the lodge, the "friendly society," intervening between patient and physician, would immediately take on new activity and require more paid employees.

(b) A very small minority group of physicians whose friendship with unscrupulous politicians would result in their sharing in the spoils.

(c) Professional philanthropy and social welfare have created a new profession. Some social workers see in socialization of medicine a multiplication of their work in providing medical relief, and see also the creation of a fertile field for the fast-growing profession and for the employment of large numbers of such social workers. More work—more social workers!

The paid reformer would completely change the present facilities for medical service because of a negligible percentage of the people who are said to find illness costs heavy in a given year.

The paid reformer has been told, but forgets, that the Committee on the Costs of Medical Care surveyed from month to month for an entire year the health needs of some 39,000 people in this country. Of the total, some 47.9% needed medical care and received it; 47.1% of the people had no need for medical care during the year, despite monthly visits of a nurse, who was endeavoring to check their needs. This leaves but 5% of the people to be accounted for and, having in mind those who choose to go to cult practitioners, it would appear that there is a negligible, if any, percentage of the people who ask for medical service and do not receive it. Should the scientific benefits of our present system of *quality* service be sacrificed to protect (partly) against sickness costs for a negligible percentage of the population?

The paid reformer is ever seeking a panacea for poverty. In socialized medicine he visions

a "new cure" and refuses to admit the probability of failure. The salaried altruist may make high sounding promises whose fulfillment is too expensive for this or any civilization to attempt.

The paid agents of certain philanthropists and certain social workers are interested in the relief of poverty and in securing the resources for such relief. Such social workers distribute cash benefits, not their own money, according to their own standards and opinions of what is good for the recipient. They naturally seek to do the same with the services of the physician (also not their property) and resent any implication that they are not equally competent to determine how and to whom and in what amounts these services shall be distributed.

A number of so-called philanthropic foundations have spent millions of dollars in the last ten years on surveys of medical care. The money so spent would have paid for the medical care of all the people detected by these surveys as capable of using some medical or dental service. The paid agents of certain philanthropists refuse to listen to reason or experience. They know, for instance, that few major insurance companies in the United States are willing to write sickness insurance because it is a losing business.

Beware of a system of medical care which would:

Destroy public confidence in medical service.

Be undesirable in its very nature (impracticable and inefficient).

Discourage quality service.

Substitute a mass production system for an individualized personalized service.

The American medical profession has always provided and furnished good medical care. No other class of men is so generous of their services and do so much charity cheerfully. Let us not change this picture.

TEN POINTS FOR THE PEOPLE'S PROTECTION

1. All features of medical service in any method of medical practice should be under control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

2. No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

3. Patients must have absolute freedom to choose a legally qualified doctor of medicine who will serve them from among all those qualified to practice and who are willing to give service.

4. The method of giving the service must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

5. All medical phases of all institutions involved in the medical service should be under professional control, it being understood that hospital service and medical service should be considered separately. These institutions are but expansions of the equipment of the physician. He is the only one whom the laws of all nations recognize as competent to use them in the delivery of service. The medical profession alone can determine the adequacy and character of such institutions. Their value depends on their operation according to medical standards.

6. In whatever way the cost of medical service may be distributed, it should be paid for by the patient in accordance with his income status and in the manner that is mutually satisfactory.

7. Medical service must have no connection in any cash benefits.

8. Any form of medical service should include within its scope all qualified physicians of the locality covered by its operation who wish to give service under the conditions established.

9. Systems for the relief of low-income classes should be limited strictly to those below the "comfort level" standard of incomes.

10. There should be no restrictions on treatment or prescribing not formulated and enforced by the organized medical profession.

DISCUSSION

Dr. William A. McNichols: Doctor Hayes states that the people in general are well pleased with their medical care. In a recent census of the lay organizations it was found that the people in general were well satisfied with the medical care and their fees, but a large Hospital bill was quite a strain on many family budgets. Something will have to be done about this.

In Lee County, since Paul DeKruif's recent articles on maternal deaths, there has been some agitation and the various woman's clubs have asked to be informed what the maternal death rate is. In Lee County we found it to be 6.2 per 1000 which is quite high, but of those cases there were several complications which had nothing to do with the obstetrical condition which caused their death.

Obstetricians I have talked to about our death rate, state that the reason De Lee's death rate and the death rate of foreign countries is so much lower than our own is because of the difference in the form of statistics that these individuals keep. It is pretty hard to put up before various lay organizations that the difference in death rate is due merely to the juggling of statistics.

Some of the lay organizations in our country are quite distressed over our high maternal death rate. In the last one thousand cases we reviewed, three of our deaths had not had any pre-natal care at all.

I would like to know if Doctor Hayes has anything

to say about the obstetrical opinions of the lay organizations.

Dr. Hayes, in closing: Dr. McNichols, I think the greatest trouble that has arisen along the obstetrical fields has been caused by the articles in the lay publications, particularly those published by Dr. Paul DeKruif. He has allied himself with certain individuals in this country and has misinformed the public, on the matter of obstetrics. He has quoted certain figures from certain institutions in Cook county in which institution they did not take the moribund or badly infected expectant mother, either pre- or post-obstetrical; therefore, those figures he quoted are authentic only for that institution. In a recent article in one of the lay magazines, he took to task the family physician and insinuated that it was because of the inactivity and the inefficiency of the family physician in taking care of obstetrical cases that the mortality rate was so high. Remember this, that you can not go to the expectant mother and tell her she has got to come to you for examination. You have got to wait for her to come to you. The social worker in the larger communities finds out in some way through her rounds in the neighborhood that a certain woman is expecting and she goes to that woman and tries to get that woman to go to some one in the local free clinic or dispensary instead of going to the family doctor. We have had more of this type of interference in the manufacturing or commercial communities than in the well-to-do residential communities. We have a great many complaints in Chicago along this same line. Answering Dr. McNichols' question, the unrest is stirred up by lay bodies and notoriety seekers butting in to something they don't know anything about. Just the same thing occurs in malpractice suits. Some careless word is dropped and the family gets it, misinterprets it and away they go, off the handle, to some shyster lawyer.

MASTITIS, MAZOPLASIA, MASTALGIA, AND GYNECOMASTIA IN NORMAL ADOLESCENT MALES

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and
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If one examines a number of boys between the ages of 13 and 16 years, a certain percentage of them will be found to have a small lump under each nipple. This lump is circular in shape and commonly about 1.5 cm. in diameter; it often hurts when touched. It is a mass of glandular and fibrous tissue[1] which we propose to call the subareolar node;[2-5] it is the principal subject of this paper, since we shall present evidence based on more than 1000 examinations of 700 individuals that all boys at some time during puberty have such a swelling. The terms mazoplasia, mastitis, mastalgia and gynecomastia in young men refer to various stages in the development of this structure.

The importance of the subareolar node lies partly in the various meanings that have been assigned to it in the past. Many authors have considered it an inflammatory mass (mastitis adolescentium), very resistant to treatment and calling for the application of every therapeutic resource of the physician.[6] One author believed that its appearance was, so to speak, a physiological protest again masturbation, and used it to frighten boys from whom he had elicited a "confession."[7] Two other authorities, however, suggested that the appearance of the nodes was the expression of a need for sexual activity, since they arose during puberty and subsided during the period when sexual adjustments were presumably being made.[8, 9] A psychiatrist told us that he had seen cases of autoerotic manipulation of the nipples in adolescents, which might be a factor in stimulating mammary growth. In many instances the node has been regarded as a neoplasm and surgically removed. The diagnosis was supported by a probably mistaken interpretation of the microscopic examination of the mass after removal.[1] Certainly the physiological swelling of the breast should be considered in every instance before amputation is performed.

The reason for this confusion has been the complete lack of quantitative information about the behavior of the average male breast during

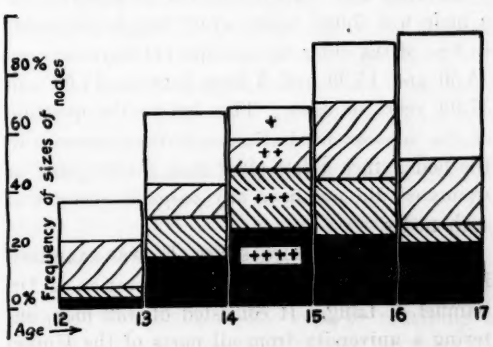

Fig. 1. Frequency of nodes ot various sizes under the nipples of normal boys of different ages. Graphic representation of the data of Table 1 shows that the incidence of + + + + nodes is greatest at the age of 14.

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adolescence. In the investigation to be reported here we have attempted to secure such information. It will be seen that any one of the above views might be supported by one or another of the facts we have found; taken as a whole, however, the data lead to quite a different set of conclusions, which will be found at the end of this paper.

Material and Methods. The first set of data, series D, consisted of the results of a single observation on each of 49 boys between the ages of 12 and 19. The notes were made incidentally to the general physical examination of a group of boys admitted to a summer camp in southern Wisconsin in 1927. The boys were residents of Illinois. The results, which will not be given in detail here, led to the impression that certain lumps which were palpated under the nipples in many of these boys might represent an essential occurrence among the phenomena of puberty.

A second series, L, consisted of 168 boys between the ages of 11 and 18 living in an institution in central Illinois. This series was examined in October 1935, April 1936 and February 1937. Apparently conclusive evidence was obtained showing that the subareolar node was a universal and normal incident at puberty, for a node was found under every nipple examined in two of the older age groups (11 boys between 15.50 and 15.99 and 5 boys between 17.00 and 17.99 years of age). This led to the question of the subsequent decline and disappearance of the node, since a few older men interrogated or examined did not have any palpable vestiges of such nodes.

Accordingly, a third series, E, was examined in September, 1936, with the cooperation of Dr. Samuel J. Lang. It consisted of 432 men, entering a university from all parts of the United States and ranging in age from 16 to 45. The slow regression of the node, which had only been surmised from previous data, was distinctly seen in this series, but the incidence in the 16.5 and 17.5 year age groups was much lower than that for the same groups in series L.

A fourth series, C, consisted of 47 boys, of ages between 9 and 19, living in one of the most congested districts of Chicago. This series was examined with the aid of Dr. C. U. Culmer.

The most complete data were those obtained in the 3 successive examinations of series L. The observations included date of birth, height, weight, bi-iliac diameter (obstetrical calipers), color and distribution of hair, color of eyes, height of nipples (special micrometer), diameter of areola (Vernier caliper), pitch of voice (crude estimation by 2 independent observers), and size of thyroid (palpation).

TABLE 1

Range of Ages	Number of nipples examined	Frequency of each size of node — in absolute figures					Frequency of each size of node — in percent				
		++++	+++	++	+	0	++++	+++	++	+	0
12.00-12.99	88	3	3	14	12	56	3	3	16	14	64
13.00-13.99	98	17	14	12	23	32	17	14	12	23	33
14.00-14.99	74	20	15	8	7	24	27	20	11	9	32
15.00-15.99	50	12	10	13	10	5	24	20	26	20	10
16.00-16.99	14	3	1	3	6	1	21	7	21	43	7

Probable History of Individual Nodes. In Table 1 are given the results of the first examination of Series L. The boys whose ages lie between 12.00 and 12.99 will be referred to as the 12.5 age-group. Of the 88 nipples examined in this group, there were 56 (=64%) under which no node could be felt. The nodes that were felt under the remaining 32 nipples were rated as follows:

\+ in 12 instances, or 14%
++ in 14 instances, or 16%
+++ in 3 instances, or 3%
++++ in 3 instances, or 3%

These data are represented by frequency-polygons in Fig. 1. It is seen that the incidence of very large nodes rose sharply to a clean-cut maximum in the 14.5 age-group; it then subsided, while the frequency of nodes in general increased steadily as far as the observations went.

For the purposes of analysis the data can also be represented as ordinary curves.[2] When this is done it is seen that the rise of any node must be quite rapid, that the ++++ stage must last approximately a year, and that the subsequent decline must take several years. We have, in fact, been able to resynthesize the given family of curves from others constructed on the following assumptions: The average node begins to grow

at the age of 13.0 years, requires 15 months to reach the ++++ stage, remains there for 15 months, and then declines so slowly that at the age of 17.0 it is still classified as ++; the age of beginning growth varies so that some nodes start as early as age 11 while others, which probably never reach the ++++ stage, start as late as age 16. All these various assumptions are corroborated by detailed study of the individual histories of those boys of Series L who were examined 3 times.

Measurement of Nipple-Height. The palpation of the subareolar nodes gave results that could not be stated quantitatively except in the system of arbitrary units used in Table I. It seemed desirable to devise a more objective method. For this reason we constructed a "thelometer" consisting of a micrometer screw mounted vertically on a small tripod. When the instrument was balanced upon the chest of the subject in the supine position, the screw could be turned down until the tip just made contact with the papilla mammae; this gave a reading which was called the nipple-height. Obviously the value so obtained was the resultant of a number of variables—the convexity of the subject's chest; the firmness of his skin, muscle, and subcutaneous fat; the subject's position, and possibly even the temperature of the room. Nevertheless it was soon evident that the existence of a large node under the areola mammae would register in this way, and the application of statistical methods to the results gave a correlation coefficient of +0.52 between the thelometer reading in millimeters and the size of the subjacent node in arbitrary units.

When the average nipple-height for each age-group in series L was first plotted against age, the curve obtained[4] had a maximum in the 14.25 age-group. It was found later that the birthdates of 16 boys had been incorrectly given. It was also found that individual variations were such that points representing less than 25 boys could not be included in the curves without introducing meaningless irregularities, and that consequently the subdivision into half-year age-groups was more than the data would stand. Table 2 is based on the corrected ages, and the grouping is by one-year intervals. Individual boys appearing in one group in the 1935 examination naturally appear in a later group the following year, and as the older boys leave the institution the total number in successive examinations shrinks.

TABLE 2

Age		Examined October 1935		Examined April 1936		Examined February 1937	
Range	Average	Number of boys	Nipple height (mm.)	Number of boys	Nipple height (mm.)	Number of boys	Nipple height (mm.)
12.00-12.99	12.5	44	0.57±0.11				
12.50-12.99	12.75			25	0.64±0.14		
13.00-13.99	13.5	49	1.15±0.09	43	1.27±0.12	28	0.70±0.16
14.00-14.99	14.5	37	1.14±0.15	44	*1.50±0.14	34	*1.65±0.14
15.00-15.99	15.5	25	*1.40±0.24	25	1.25±0.18	29	1.04±0.22

The maxima have been marked by asterisks.

Table 2 shows that the corrected data give maximum nipple-heights for the fourteenth or fifteenth year.

The Sequence of Events in Puberty. The most coherent summary that we have been able to find of the changes of puberty in boys is the classic series of articles by Crampton.[10, 11, 12] His fundamental criterion of physiological age was the stage of development of the pubic hair. It was found that during the period of pubescence,—that is, during the period when the pubic hair is appearing and approaching full growth—there is an acceleration of the rate at which the boys gain in weight, in height and in strength as measured by a dynamometer. The acceleration results in so marked a disparity in the physical status of individuals within any given age-group that the sub-classification of high school students into prepubescent and postpubescent groups within a given class is strongly indicated, especially since the postpubescents have a significantly superior scholarship. The favorable results actually obtained from such sub-classification were summarized later by Foster.[13]

Our own observations on the chronology of puberty were made in the hope of obtaining a clue as to the nervous or endocrine influence responsible for the growth of the subareolar node. We wished to use physical findings that could be obtained at a single examination. The simplest

to use are 1. pubic hair, 2. facial hair, 3. chest hair, 4. axillary hair, 5. size of external genitalia as represented by the diameter of the testicles, and 6. pitch of voice. The curves for the first three have been published,[4] and show that the pubic hair was growing most rapidly at about 14.0 years, while the facial hair lagged about a year behind. The axillary hair gave a curve that practically coincided with that for facial hair. The hair on chest and legs gave us no information of value; its appearance was generally late, the individual variations were very great, and the amount was difficult to express numerically. Thus the pubic hair was earliest and most constant, the facial and axillary hair developed more slowly, and the hair on chest and legs was last and most variable.

It is of some interest to note the data on shaving in a group of 15 institutional boys between the ages of 16.00 and 16.99. Eight had never shaved. Of these, 1 had facial hair rated as 0, 3 as +, and 4 as ++. Of the remaining seven, 1 had shaved once, 1 twice, 1 about once a month, 1 about every 2 weeks, and 3 about once a week.

The testicular measurements were made because some index of the size of the genitalia was needed. A growth-curve that rises sharply at puberty is characteristic of the genital tissues, as was demonstrated by Scammon.[14]

The testicular measurements were made by applying a Vernier caliper to the testicle with as uniform a pressure as possible in such a way as to measure the least of the three diameters of the ellipsoidal mass. An obvious source of error here is the thickness of the scrotal integument; this introduces a systematic error into all the measurements and robs them of any absolute, but by no means of their great relative, significance. The averages of the readings obtained on Series L in 1935 are given in Table 3.

TABLE 3

Group	Average Age	Number of boys	Average testicular diameter (cm.) D	Cube of D
1	12.5	42	1.69	4.83
2	13.5	45	2.00	8.00
3	14.5	32	2.29	12.00
4	15.5	22	2.58	17.17

If one assumes that the weight of the testes is proportional to the cube of the diameter, the rapidity of average growth is appreciated; the penis and most of the other genital structures must be supposed to increase at the same striking rate.

It must be noted, however, that the course of individual growth cannot be deduced from the course of average growth. Average-curves not only conceal some phenomena but also produce illusory ones. A striking instance of this is the "prepubertal weight-rise" whose existence was noted by some authors in the curve for average body-weights but which was shown by Crampton[15] to be absent in individual growth-curves. In the case of the testicle, the curve of averages does not give a suspicion of the sudden and extensive rises seen in individual curves. An illustration occurs in the protocol of L 78 (not included here), which shows that the testes must have doubled in weight within 6 months while the subareolar nodes were developing from — to ++++; the testes again doubled their weight in the ensuing 9 months while the subareolar nodes were beginning their decline. Evidently there will be individuals who greatly exceed the average rate for a time, while others must fall far short of it.

The time-relation of the voice-changes to two other changes of puberty (pubic hair and subareolar node) has been reported in a previous paper.[3] We are now in a position to insert some of the other phenomena in their proper places, and can say that in the series L the most usual sequence of events was this: (a) the change of voice and acceleration of testicular growth started first, at about 13.0 years; (b) the growth of pubic hair was fastest at about 13.75. (c) the acceleration of increase of body-weight began usually at 14.0; (d) subareolar nodes reached their maximum size at about 14.25; (e) the appearance of beard and of axillary hair was fastest at about 16; (f) slow changes in the subareolar node continued for a long time, mostly in the direction of softening and complete disappearance, but sometimes in the direction of persistent soft glandular masses or various degrees of gynecomastia; (g) the growth of hair on body and extremities generally came last, but was most variable as regarded extent and time of appearance. Departures from this sequence were too numerous and varied to describe, and can only be exemplified in some of the protocols given below; the above is the most usual order.

The Later History of the Node. Since we had

concluded that the subareolar node appears in every boy as an essential feature of the puberal changes, the absence of palpable mammary tissue in most older men remained to be demonstrated and accounted for.

The expected decline of the node was seen in Series E, which consisted of 432 men between the ages of 16 and 45, but some new phenomena were encountered. It was found at once that rating the glandular mass on the basis of *size* alone, which had been sufficient in boys up to 16, would not suffice for older men. After 16 the masses varied not only in size but also in hardness. By rating each quality (size and hardness) separately on a scale from 0 to 4, and then taking the product, a composite rating was obtained in arbitrary units from 0 to 16. This method was used consistently for Series E. The results are given in Table 4.

TABLE 4

AGE Range	AGE Average	Number of men	Percentage of nipples with no underlying nodes	Average rating of subareolar nodes
16.00-16.99	16.5	5	40	1.40 ± 0.39
17.00-17.99	17.5	64	75	0.97 ± 0.12
18.00-18.99	18.5	111	73	1.10 ± 0.10
19.00-19.99	19.5	84	85	0.85 ± 0.12
20.00-20.99	20.5	84	87	0.61 ± 0.09
21.00-45.00	24.4	68	84	0.43 ± 0.07
		416		

This table shows that as one goes on to older men one finds more and more nipples without an underlying mass of palpable glandular tissue. It also shows that age-groups of 100 or more individuals are necessary to obtain reasonably smooth curves, because of the great individual variations. The magnitude of these variations is indicated by the high probable errors of the averages in the last column.

Sixteen individuals are omitted from the above table. Of these, 7 men were so obese that palpation of the nipple region gave no information. An eighth man, who may have represented the extreme of this group, was very obese, had almost pendulous breasts, and volunteered the suggestion that he was "a pituitary case." It was impossible to tell whether the softly nodular masses in the pectoral region were fatty or glandular tissue. Three other men who were not obese had soft masses in the pectoral region, but two examiners disagreed as to whether the masses felt like glandular or like fatty tissue. Two men are omitted from the table because there were indications that some definite disturbance of puberty had occurred in their cases. One, age 18, stated that his puberty was late; his pubic hair was sparse and his voice difficult to classify. Under each nipple there was a node rated ++ as to size and +++ as to hardness. The other, age 20, stated that erotic dreams with seminal emissions had started only 2 years before and that his voice had not yet changed definitely. He had shaved for the first time at the age of 19, and was at the time of examination shaving once or twice a week. At the time of examination both nipples hurt when touched and had been tender for 2 months. On the right side the areola measured 2.2 cm. in diameter and overlay a node whose diameter was 3.3 cm. On the left, the areola measured 2.8 cm. (larger than normal) and overlay a node whose diameter was 3.5 cm. The remaining 2 men had definite cases of gynecomastia.

Two Cases of Gynecomastia. One youth, age 18, presented no abnormalities as he went through the routine physical examination excepting perhaps an unusually light pigmentation of skin and hair (bordering an albinism). He was sparely built, and under each areola there was palpable a distinct mass of soft, nodular tissue overlying the firm pectoral muscles. The mass on the right had a diameter of 5.6 cm.; that on the left measured 6.0 cm.

A second, age 18, presented no abnormalities except a definite gynecomastia. Distinctly palpable over the firm pectoral muscle on each side was a glandular mass about 5 cm. in diameter; on each side the overlying areola was raised to convexity by the gland tissue and was conspicuously larger in diameter (3 cm.) than the normal areola (roughly 2 cm.)

Gynecomastia in Statu Nascendi. In the 1937 examination (the third) of Series L we found one additional case of gynecomastia, and going back over our previous data, we found we had the whole story of its development. The data on this boy (L 137) are given in protocol 1.

Is the Subareolar Node Remembered? The last 161 men of Series E were asked whether they remembered having had lumps under their nipples at the age of about 15; of the 161, 138

PROTOCOL 1

History of Boy L 137. Date of birth: 1922-VIII-31.			
Date of examination.....	1935-X	1936-IV	1937-II
Age (years and quarters).....	13-1	13-7	14-5
Weight (pounds and quarters)	88-1	100-0	109-1
Heigth (inches and eighths)..	60-7	62-5	65-7
Hair: Pubic	+	+++	++++
Axillary	—	—	—
Facial	—	—	—
Testes: R (diameter in cm.)..	2.39	2.82	2.95
L (diameter in cm.)..	2.38	2.79	3.10
Mean =M= ½ (R+L)	2.38	2.80	3.02
Cube of M	13.5	22.0	27.5
Nipple-heights (mm.) right...	0.6	4.8	3.0
left....	1.0	4.0	2.6
Subareolar nodes, right.....	+	++++*	+++++**
left....	—	++++*	+++++**
Voice (high, changing, low)..	Ch	Ch M	Ch L
Weight-gain (lbs. per month).	..	1.98	0.76

*Subareolar nodes are respectively 2.1 and 2.4 cm. in diameter, and tender to palpation.

**Right glandular mass is 6.1 by 6.9 cm. in diameter; left is 4.4 cm. in diameter. The masses did not really attract his attention until about 2 months ago.

(85.7%) said they did not. Of the 23 who did remember the lumps, 13 did not recall their being painful. The statements of the remaining 10 deserve brief summaries; in each case the number in parenthesis is the man's age.

E281 (20): At 13 he had to have his nipples bandaged because they were so sore.

E282 (20): At 14 he was so worried about the lumps that he went to a physician, who reassured him and said that they were normal. At 20 a node is still palpable under each nipple.

E287 (18): He remembers that his bathing suit chafed his nipples when he was 15 or 16.

E310 (17): He remembers a little tenderness at 15.

E321 (20): They used to hurt when he boxed at 15.

E342 (22): His bathing suit used to hurt his nipples a little at 15.

E361 (20): They have been tender for past two months. (Case of delayed puberty referred to above).

E368 (19): They caused him some discomfort at 13.

E371 (18): The right breast at 15 became inflamed and discharged pus; the left became sore but gave no discharge.

E416 (25): There remains a vague memory of tenderness.

Chronic Cystic Mastitis. What fate occasionally awaits the regressing subareolar node is shown by the anamnesis of E 225, a man who was 45 years of age when examined. The right nipple was missing, its place being taken by a large scar. The left nipple remained, though surrounded by scars. He stated that a chronic cystic mastitis had become so troublesome as to necessitate the surgical removal of the whole structure on the right at the age of 30. At 35 a similar operation became necessary on the left, but it was found possible to spare the areola.

Does the Sequence of Events in Puberty Suggest how Many Independent Hormones May be Active? It was our hope that among the various changes of puberty we might find at least one which would be so closely linked chronologically with the rise and fall of the subareolar node that a common cause would be suggested. In this we have been disappointed. The following 3 protocols illustrate this fact. It will be seen that in L 22 the subareolar nodes were regressing while both somatic and genital growth were extremely rapid; in L 90 the node was growing while somatic growth was also very rapid, but the genital growth was fastest while the node was regressing; in L 95, finally, accelerated genital growth nearly coincided with the rise of the node while somatic growth continued at a slow, prepubertal rate.

PROTOCOL 2

History of Boy L 22. Date of birth: 1921-XII-21.			
Date of examination.....	1935-X	1936-IV	1937-II
Age (years and months).....	13-10	14-4	15-1
Weight (lbs. and quarters)....	92-2	108-2	125-0
Height (inches and eighths)..	62-0	63-6	66-0
Hair: Pubic	++	++	++++
Axillary	—	+	+++
Facial	—	—	+
Testes: R (diameter in cm.)..	1.62	2.12	2.75
L (diameter in cm.)..	1.62	2.13	2.61
Mean =M= ½ (R+L)	1.62	2.12	2.68
Cube of M	4.25	9.53	19.25
Nipple-heights (mm.) right...	1.0	0.0	—1.0
left....	1.8	—0.6	—0.2
Subareolar node right	+++	+	—
left.....	++++	+*	—
Weight increase (lbs. per mo.)		2.67	1.88

*Tenderness present.

The protocol exemplifies the complete regression of the node.

PROTOCOL 3

History of Boy L 90. Date of birth: 1921-XI-26.			
Date of examination.....	1935-X	1936-IV	1937-II
Age (years and months).....	13-10	14-4	15-2
Weight (lbs. and quarters)..	104-0	122-2	131-2
Height (inches and eighths)..	62-5	64-2	67-4
Hair: Pubic	++	+++	++++
Axillary	—	+	+
Facial	+	+	+
Testes: R (diameter in cm.)..	1.82	1.77	2.32
L (diameter in cm.)..	1.85	1.93	2.50
Mean =M= ½ (R+L)	1.84	1.85	2.41
Cube of M	6.23	6.33	14.00
Nipple-heights (mm.) right...	—1.3	1.8	0.3
left....	—0.4	0.6	—0.2
Subareolar nodes, right.....	+	++++	++
left.....	—	++	+
Voice	H, H	H, Ch	Ch, Ch
Weight-increase (lbs. per mo.).	....	3.02	1.00

In the above instance the somatic and mammary growth, both striking, were simultaneous, while the acceleration of genital growth occurred during a later period of slow somatic growth and

mammary regression. The gain of 18.5 pounds of weight in 6 months deserves notice. This protocol is also interesting because it contains the entire history of a pair of subareolar nodes, with rapid growth, inequality on the two sides, and slow decline.

PROTOCOL 4

History of Boy L 95. Date of birth: 1923-VIII-16.

Date of examination	1935-X	1936-IV	1937-II
Age (years and months)	12-1	12-8	13-5
Weight (years and months)	75-0	81-0	86-2
Height (inches and eighths)	57-2	58-1	60-1
Hair: Pubic	++	++	+++
Axillary	+	++	++
Facial	+	—	—
Testes: R (diameter in cm.)	1.52	1.48	2.18
L (diameter in cm.)	1.65	1.34	1.97
Mean =M= ½ (R+L)	1.58	1.41	2.08
Cube of M	3.94	2.80	9.00
Nipple-heights (mm.) right	—2.1	—1.3	1.2
left	—2.1	—2.0	1.9
Subareolar nodes, right	—	—	+
left	—	—	+++*
Voice	H	H, H	H, H
Weight-increase (lbs. per mo.)	..	1.00	0.57

*First noticed a week ago.

In the above history it is seen that the rise of the subareolar node was simultaneous with a marked acceleration of genital growth, while the acceleration of somatic growth apparently remained for some future time. The sudden appearance of a large node under one areola and of a smaller one under the other areola measurably increased the nippleheights. The possibility of striking changes in the appearance of the external genitalia within a few months is appreciated when one notes that here the testicles must have tripled their weight in 9 months.

Fluctuant Course of Node; Acne. A given node, having become palpable, may grow to a conspicuous size, decline for a time, again grow large, and again subside. Such fluctuations will be lost in curves for averages in group studies. Only a prolonged and detailed study of individuals could tell to what extent such fluctuations enter into the history of every node. Protocol 5 illustrates such a history. The protocol has two other features of special interest. One is the acne, which, according to the work of Bloch,[16] and Michael,[17] is now believed to be part of the phenomena of normal adolescence; it is essentially an hypertrophy of certain elements of the skin under the influence of an endocrine factor closely related to the others causing the growth-acceleration of puberty. The other feature in this case was the athletic build and manly behavior of the subject. It might be supposed that the occurrence of very large nodes and mild gynecomastias would be associated with asthenic constitutions or effeminate tendencies. Our data in general lend no support whatever to this supposition, which would conflict particularly with the following case (protocol 5). There are many reasons for believing that the mammary hypertrophy with which we are concerned is caused by a hormone from the testes; that this is true at least for the rat is shown by the remarkable observations of Selye et al.[18] and Astwood et al.[19]

PROTOCOL 5

History of Boy L 103. Date of birth: 1922-I-5.

Date of examination	1935-X	1936-IV	1937-II
Age (years and months)	13-9	14-2	15-0
Weight (lbs. and quarters)	123-0	128-0	153-2
Height (inches and eighths)	62-6	64-1	67-2
Hair: Pubic	++	++	++++
Axillary	—	—	—
Facial	—	—	—*
Testes: R (diameter in cm.)	2.29	2.55	2.50
L (diameter in cm.)	2.37	2.71	2.40
Mean =M= ½ (R+L)	2.33	2.63	2.40
Cube of M	12.65	18.19	13.82
Subareolar nodes, right	++++**	++	+++++§
left	++++	++	+++
Nipple-heights (mm.) right	2.8	0.3	6.3
left	1.0	—0.6	1.8
Voice	L	L	L
Weight-increase (lbs. per mo.)	....	0.83	2.79

*Boy now has a severe acne.

**This node is especially large, firm, and definite; diameter about 1.2 cm.

§Both these nodes are hard. Right node has a diameter of 2.6 cm.; boy says it was biggest in December, 1936, and used to hurt in cold weather. Left node has diameter of 1.4 cm.; it used to hurt too, was also biggest in December, 1936, but has never been as big as that on the right.

What is Mastitis Adolescentium? The transient hypertrophy of the mammary gland in newborn babies, with occasional secretion, is a familiar phenomenon. The glandular tissue becomes palpable as a firm, circular node, and such nodes have been examined microscopically after surgical removal. The tissue is said to be indistinguishable from that of carcinoma in the adult breast. Numerical data on the frequency of such swelling, and references on the subject of "witches' milk," are given by Lyons.[20] The swelling subsides after a few weeks, and the tissues involved must be supposed to rest until the approach of puberty.

The reappearance of the node probably occurs about 5 years earlier in girls than in boys.[4, 21, 22] In pubescent boys the node rapidly enlarges to a diameter of more than 1 cm., and is very likely to be tender. This stage begins roughly at the

age of 14, and lasts more than a year. Since we believe this to be a normal structure, we are not surprised to find it resistant to treatment by massage and hot water bottles. The "tumor" and "dolor" are the only features that might justify calling this process inflammatory. Zappert proposed the term "schmerzhafte Brustdrüsenschwellung grösserer Kinder." The term "mastitis adolescentium," as pointed out by Zappert, should not be applied to this perfectly normal condition, and should be reserved for the rare instances in which actual suppuration of the glandular mass occurs. A moderate hyperemia, and the finding of slight infiltration of round sells in the microscopic sections, are also part of the picture, and do not suffice to justify the diagnosis of chronic mastitis. The word "mastopathia" used by some authors[23] has the disadvantage that to many readers it suggests abnormality or disease.

The fact that in a given boy the two nodes do not always appear simultaneously can give rise to the impression that metastasis has occurred from one side to the other. The fact that two or more boys of about the same age are likely to develop the nodes in close succession has in one instance that we know of given rise to the impression that an infection had been transmitted from one to another.

In some individuals the regression of the nodes proceeds so fast that they are no longer palpable by the age of 17. In others they persist beyond the age of 30. In a few apparently normal boys the node enlarges to a softly nodular or glandular mass which may measure more than 6 cm. in diameter and apparently must be considered a normal gynecomastia. Our own data give no information as to the course of this condition, but Stümcke,[8] who observed one mass measuring 4½ inches in diameter, states in two places that all the enlargements observed by him regressed spontaneously. The relation of gynecomastia and mazoplasia to other changes in the breast are discussed by Lockwood and Stewart in a recent article.[24]

Mastalgia associated with the appearance of the subareolar node must be looked upon as an instance of normal pain. It is most often felt during exposure to cold or after the chafing of garments. The sensitiveness of the nipple may be persistent; one man, age 25, still avoids carrying pencils in his breast-pocket because they irritate his nipples. Three men have volunteered the information that at puberty they were able to observe a little mammary secretion, in one instance sufficient to moisten the clothing. Unless either pain or secretion occurs to fix the matter in the subject's mind, the episode of the subareolar node, like many of the other phenomena of puberty, either fails to attract his attention or else is forgotten promptly.

SUMMARY

On the basis of approximately 1000 examinations of normal boys and men between the ages of 9 and 45 it is shown that the appearance of a palpable mass of mammary tissue under each nipple is an integral part of the process of puberty. This grandular mass we have proposed to call the subareolar node. It is frequently tender for periods of many months. At times the nodes are asymmmetrical. The subsequent involution of the node shows great individual variations, both as to promptness and completeness. At the one extreme are presumably temporary gynecomastias, which we saw three times in subjects between the ages of 14 and 18 without any other signs of endocrine abnormality; at the other extreme are youths in whom no palpable vestige of the node remains at the age of 17. In our series, only 12 out of 84 men in the 20.5-year age-group still had palpable vestiges of one or both nodes.

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CLINICAL ASPECTS OF NEPHRITIS

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Over one hundred years ago, Richard Bright[1] distinguished a small number of patients from all others at Guy's Hospital by his discovery that their urine contained notable concentrations of protein. In this group he observed a significantly high incidence of edema and cardiac enlargement, but in general the symptomatology was quite variable and, with the exception of albuminuria, no clinical constant was found. He established the fact that in every case gross structural abnormalities existed in the kidneys and that, although the renal lesions varied in outward appearance, they were all nonsuppurative and bilateral.

Today we still begin where Bright began, with the observation that the urine contains protein, and we end where he ended, with the study of the structural abnormalities in the kidneys and other tissues. We still find constant only the association of certain urinary and renal changes and our minds are often as divided and uncertain as was his in regard to the question as to whether these patients are victims of one disease in various stages and intensities, or are suffering from different diseases of diverse etiology. This paper, then, is presented with the hope of adding to the clarity and completeness with which the variable courses of the different types of renal disease can be pictured, thereby lessening the avoidable error of diagnosis and prognosis.

There is still no unanimity of opinion concerning either the nomenclature or classification of the group of renal diseases known as nephritis. An etiological classification, although highly desirable, cannot be used because of the present lack of knowledge of the cause of many varieties. A simple anatomical classification is also unsatisfactory because the lesions are usually too diffuse, because intermediate and mixed forms are frequent and because post-mortem examinations frequently fail to demonstrate comparable distinctions. The pathologist cannot give a decisive answer. After all, his observation is limited to one moment of time, and that moment the last of life, when the original simplicity of the lesion is often obscured by terminal complications, or when the disease is so far advanced that little but fibrous tissue remains and the nature of the primary reaction can be only doubtfully surmised. Furthermore, nephritis in all its forms is always very much more than a disease of the kidneys, and no classification that is based only on the nature of the renal lesion can possibly be adequate. Vascular abnormalities and changes in the other tissues are often more important than the structural or functional changes in the kidneys, but our clinical knowledge of these extrarenal lesions is, as yet, almost negligible. The question, therefore, seems to be one for the clinician who can watch the development of the disease from beginning to end.

The older school of writers, as exemplified by the Osler[2] period, simply divided nephritis into acute and chronic forms. Chronic nephritis was further subdivided into parenchymatous and interstitial varieties and the latter again split into the primary and secondary contracted kidney. The first real effort at an inclusive classification was that of Volhard and Fahr[3] in 1914. They not only introduced order and clarity into the classification of the nephritides but were also able to satisfactorily relate the clinically defined conditions to the anatomical changes in the kidneys. Their publication was followed by many others, the most noteworthy of which are probably that of Addis[4] in 1925, which is based on the examination of the urinary sediment, and

that of Christian[5] in 1931, which is purely clinical. However, all, in one way or another, have been forced to recognize three outstanding syndromes. These are in the main:

1. Cases characterized by hematuria and the presence of blood casts in the urine. Hypertension and nitrogen retention are usual in the acute stages and regular in the advanced stages.

2. A symptom complex characterized by edema and massive albuminuria with little or no evidence of cardiovascular disturbances, hypertension or nitrogen retention.

3. Cases in which the general vascular system is diseased or disturbed and arterial hypertension is regularly found before there are manifestations of renal disease.

These three forms are apparently etiologically and pathologically distinct and different and by recognizing them and following their course the clinician can, during life, anticipate with considerable accuracy the major pathological changes occurring in the kidneys. When the relation of these syndromes to the terms used in the different classification is compared, as in the accompanying table, it is obvious that the differences are not too great. This is particularly true in regard to the Volhard-Fahr and Addis nomenclatures, which are practically interchangeable. In the following discussion the terminology of Addis is followed because it is becoming increasingly accepted, because it is simple and because it avoids controversial terms. The terms of Volhard and Fahr are given in parentheses and are occasionally used alternatingly with those of Addis, particularly where it seems desirable to stress the anatomical changes in the kidneys.

RELATION OF NEPHRITIC SYNDROMES TO TERMS USED IN DIFFERENT CLASSIFICATIONS

SYNDROMES	OSLER	VOLHARD-FAHR 1914	ADDIS 1925	CHRISTIAN 1931
1. Hematuria, hypertension and nitrogen retention. Acute, chronic and terminal stages.	Acute nephritis. Chronic interstitial nephritis (Secondary contracted kidney).	Glomerulonephritis	Hemorrhagic Bright's Disease	Nephritis without edema.
2. Renal edema and massive albuminuria. Hypertension and nitrogen retention absent or minimal.	Chronic parenchymatous nephritis.	Nephrosis.	Degenerative Bright's Disease	Nephritis with edema
3. Hypertension and general vascular disease precedes renal changes.	Chronic interstitial nephritis (primary contracted kidney).	Nephrosclerosis	Arteriosclerotic Bright's disease	Essential hypertension and renal arteriosclerosis progressing into chronic nephritis

HEMORRHAGIC NEPHRITIS

(Glomerulonephritis)

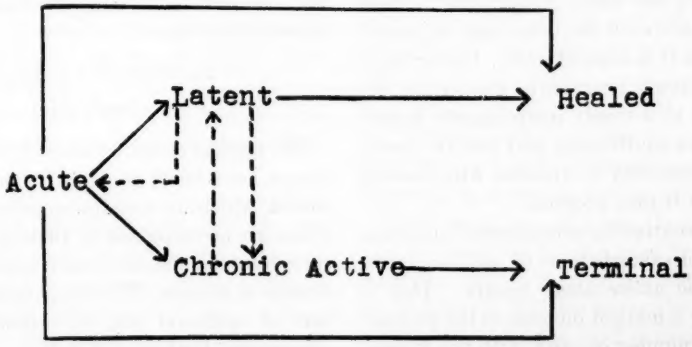
The characteristic feature of this type of nephritis is the occurrence of abnormal numbers of red blood cells and blood casts in the urine. Hypertension and nitrogen retention are usual in the acute stages, regular in the terminal stages. The hematuria may be slight or so profuse that it suggests hemorrhage. It may be acute, intermittent or chronic. Blood casts are pathognomonic. They vary in color from lemon yellow to dark brown. In some of those of lighter color red blood cells may be seen incorporated in the matrix, but the majority are only fused orange colored masses. In addition, the urinary sediment contains epithelial cells and considerable numbers of pus cells.

It is generally conceded that these cases are caused by streptococcus infections, usually originating in the mouth or respiratory tract, and that their subsequent course is due to the exacerbation, recurrence or persistence of such infections. Tonsillitis is by far the most common single cause. Other factors which are frequently listed, such as exposure to wet or cold, probably act only indirectly by way of infection.

The primary and outstanding pathological change is an inflammatory destruction of the glomeruli. Histologically, these show hemorrhage, infiltration with polynuclear leucocytes, endothelial proliferation, lobulation and hyaline

transformation. The tubular epithelium is usually swollen and granular and the lumen of the tubules is often greatly encroached upon or filled with exudate and cellular debris. The interstitial tissue, as a rule, shows very little change, but at times there is edema, hemorrhage and some cellular infiltration. In the acute stages the kidney is larger than normal because of congestion, edema, hemorrhage and swelling of the epithelial cells. Its color varies from pale translucent gray to yellowish gray to red. Often it is mottled. These colors depend upon the amount and distribution of the edema, congestion and hemorrhage. In the subacute stages the kidney is usually quite white in color, though it may retain some of its mottling. As the process continues and more glomeruli become destroyed and fibrosed, there are increasing secondary changes, chiefly interstitial proliferation and fibrosis, with degeneration or atrophy of the tubules associated with the destroyed glomeruli. With this the kidney becomes smaller and firmer, with a roughened granular surface and more or less adherent capsule, until finally there results the typical secondarily contracted kidney. At this time the renal architecture is so destroyed that the differentiation between the cortex and medulla is indistinct or lacking and there are obvious arteriolar changes. In those cases which come to postmortem as a result of a purely renal death, i.e., uremia, practically all the glomeruli are destroyed. However, the amount of gross anatomical contraction depends more upon the duration of the disease than upon the degree of functional damage the kidney has suffered. Those dying early, e.g., those which pass directly from the acute to the terminal stage, show kidneys of the large white type.

The course of the disease is quite variable and, as has been said, is probably determined by the healing, persistence, exacerbation or recurrence of the streptococcal infection which caused it. Thus the initial acute process either heals, improves to a latent stage or progresses through an intermediate phase to a terminal stage with hypertension and nitrogen retention. Addis has pictured this course diagrammatically about as follows[6]:



The more usual changes are indicated by the arrows with the unbroken shafts. The dashed arrow indicating a change from a chronic active to a latent state represents a favorable outcome which is extremely uncommon. The reverse arrow leading backward from the latent to the acute stage indicates an exacerbation. Less frequently an exacerbation may cause a change from the latent to the chronic active state.

In the progress of the disease the different stages are, of course, not sharply marked off from one another. The transition periods during which the disease passes from a condition frankly belonging to one stage to that clearly belonging to the next may cover weeks, or even months. Likewise, the boundaries between the different stages, particularly between the chronic active and terminal stages, is often broad and hazy. Nevertheless, the disease in its progress does pass through periods clinically so different that they have at times been described as different entities and so the convenience of using concise names to define them seems justified.

The *acute stage* of hemorrhagic nephritis is familiar to all of us, with its smoky urine, slight to moderate rise in blood pressure and slight generalized edema. However, and this is not infrequent, its manifestations may be so slight that

they escape notice or are forgotten. When the streptococcal infection has run its course and disappeared, as for example in scarlet fever, there is a rapid subsidence in the activity of the renal lesion and ultimately healing with a defect that is compensated by hypertrophy. The prognosis here is usually good. Few patients die. Most children recover completely. In adults slight urinary changes often continue. In general patients who have recovered seem to have no real increased tendency to develop nephritis in the future. However, we have no way of foretelling its course. During the acute process, neither the degree of hematuria, hypertension, nitrogen retention or anemia seem to have any bearing on the ultimate outcome. On the other hand, those patients who show a plasma albumin deficit or who do not show definite and continued improvement at the end of four months usually do not recover but pass into one of the other phases, usually the chronic active or terminal.

If there is a continuance of focal streptococcal infection the individual tends to pass into the *latent stage*. Here their general health is usually very good and the only findings are a slight proteinturia and an abnormally high number of red blood cells and a few blood casts in the urinary sediment. In fact, even the urine may be passed as normal unless it is concentrated. Under these conditions the slowly progressive glomerular destruction is met by a steady compensatory hypertrophy. Such an equilibrium may last for years. Finally the process may be arrested with healing and recovery, or it may progress.

If there is a continuing streptococcal infection or repeated mild exacerbations of such an infection the *chronic active stage* results. This is characterized by a marked increase in the proteinuria and in the number of casts, with the appearance of waxy casts and fat droplets in all the hyaline casts. In untreated cases there is marked edema. If, as so frequently happens, there is no increase in the blood pressure, the only method of differentiating such cases from so-called genuine nephrosis is by the large number of red cells and the finding of an occasional blood cast in the urine. The prognosis in these cases is not good. It is extremely rare for them to revert to the latent stage or to recover. Practically all of them present the same melancholy tale of progression with death, usually in less than three years. In these cases the presence of hypertension means arteriolar sclerosis. This hypertension has no definite prognostic value but it does mark the case as one in which death may occur from circulatory failure or cerebral hemorrhage before renal failure has reached a lethal degree.

The *terminal stage* is reached when the destruction and fibrosis of the glomeruli has reduced the amount of secreting tissue to less than one-third of its original amount. With this there is hyposthenuria, nitrogen retention and usually hypertension. The character of the urine also shows marked changes because when a glomerulus is destroyed urine no longer flows down its tubule and so less albumin, blood and pus cells come from the shrunken kidney. Finally nothing of what was previously found remains and all the casts are renal failure casts. Many cases do not come under observation until this stage is reached. They may tell us that they have always been well and strong until they noticed an unaccountable weakness, or unexpected vomiting or sudden dimness of vision. Sometimes they remember a long past illness which might have been the initial stage, sometimes the history is clearer and more convincing, occasionally the transition has been recorded. The usual termination is in uremia. As a rule this occurs in less than a year, rarely in more than two.

DEGENERATIVE NEPHRITIS

(Nephrosis)

The clinical characteristics of this type of renal disease are a heavy proteinuria and a tendency to edema which is usually massive in character. These are accompanied by little or no evidence of cardiovascular disease, hypertension, nitrogen retention or anemia. The urine contains large numbers of epithelial cells in various stages of degeneration, hyaline and fatty casts and doubly refractile fat droplets, but few or no red blood cells or other elements indicative of an active inflammatory process in the kidney. The outstanding constant abnormalities in the blood are a deficit in the plasma albumin, which is more often than not less than half of the normal four per cent, and an increase in the fat and cholesterol concentrations. In addition there is a reduced basal metabolism which is not affected by thyroid therapy.

In the majority of cases the etiology is unknown. Addis calls these cases "cryptic" and Volhard and Fahr "genuine." Other cases ac-

company or follow a great variety of infections, the most common of which are osteomyelitis, tuberculosis and syphilis. Still others may follow pregnancy, mercurial poisoning and jaundice. Out of the mass of literature one gains the distinct impression that degenerative nephritis is probably not a distinct entity like hemorrhagic or glomerulonephritis. Hence if one desires to apply the term nephrosis to this syndrome there can be no objection. No real agreement has yet been reached concerning the nature of the disease and both names represent convenient terms under which to group those degenerative conditions which affect the kidney parenchyma but which do not attack the vascular system. That the plasma albumin deficit is the predisposing and essential factor in the development of the edema has been amply demonstrated by the work of Starling,[7] Epstein,[8] Moore and Van Slyke[9] and others. Practically the complete syndrome may be reproduced in dogs by repeated plasmaphoresis. The significance and mechanism of the low metabolism remains an unsolved puzzle. It has already been mentioned that this syndrome may appear in the course of hemorrhagic nephritis and Christian[10] has long championed the view that these cases are merely a stage of that disease. This is certainly almost universally true of those cases occurring in adults in whom, if death does not intervene, there is a gradual shift in the clinical picture with decreasing edema, rising blood pressure and finally nitrogen retention.

The characteristic pathological lesions are degenerative changes affecting most markedly the tubules. Histologically there is intense fatty and hyaline-droplet degeneration of the epithelial cells, in comparison with which all other changes are insignificant. The lipoid deposits which have been greatly stressed by some are probably secondary and unimportant changes, sometimes present, sometimes absent, which should be interpreted, not as a part of the degenerative process, but merely as evidence of reabsorption of fat from the urine in the tubule by its lining cells. There is usually some hyalinization of the glomeruli and rarely some scar formation. Macroscopically the kidneys are usually large and white; their capsule strips readily leaving a smooth surface. In the amyloid forms there are usually extensive deposits in the glomeruli as well as in the tubules. In late stages, particularly in those which have shown hypertension and nitrogen retention during life, there is increasing involvement of the glomeruli and usually some retraction.

Degenerative nephritis is a relatively uncommon form of renal disease. Most of the cases occur in children. Its onset is usually insidious, it progress chronic. It may last from a few months to many years. A few cases undoubtedly recover, some entirely. The great majority, however, progress and usually die in twelve to twenty-four months of an intercurrent infection, the most common form of which is a pneumococcus invasion of their ascites. If they do not recover or die of an intercurrent infection, they progress and as they progress there is a gradual shifting of the clinical picture from that of nephrosis to that of chronic hemorrhagic or glomerulonephritis.

ARTERIOSCLEROTIC NEPHRITIS

(Nephrosclerosis)

In this group of cases the general vascular system is diseased and hypertension precedes any serious disturbance of the kidneys. The most striking clinical features are marked hypertension, cardiac hypertrophy and the presence of a small amount of protein and a few hyaline casts in the urine. The chief symptoms are usually referred to the extrarenal arterial system, particularly of the brain and the heart. Hyposthenuria and nitrogen retention may occur but as a rule renal failure is only a terminal event. If edema is present it is always cardiac in origin.

These cases are of great importance because they represent by far the most frequent form of nephritis, though they do not appear as such in the literature. But so far as the kidney is concerned its importance is of a negative character, for when the diagnosis has been made it is no longer necessary to consider the renal lesion as a factor in the management of the patient. These are the patients with hypertension who are often told that they are suffering from "chronic interstitial nephritis" and who constantly live in fear of death in a uremia that never occurs.

A good deal of knowledge has been acquired, especially in recent years, concerning the mechanism of hypertension, but practically nothing is known of its fundamental etiology.

The primary pathological changes are in the small arteries and arterioles. These show intimal hyperplasia, hyalinization and fatty degenera-

tion. As a result their lumina are usually narrowed and often obliterated. Thrombosis is common. Varying proportions of the glomeruli show hyaline and fibrous changes but as a rule the majority of them are intact. The tubules also show changes which are largely atrophic in type. The connective tissue is always increased. Usually this occurs most markedly in bands enclosing atrophied glomeruli and tubules with intervening portions where the connective tissue is less prominent and the renal structure fairly normal. It is this connective tissue increase which gave to these kidneys their old name of chronic interstitial nephritis. Its overgrowth, however, is secondary to the nutritional changes arising from the vascular lesions. Grossly the kidneys are small, shrunken, firm, dark reddish brown in color, with scarred coarsely granulated surfaces. Their capsule is adherent and when stripped leaves a roughened, pitted surface where connective tissue strands have torn out bits of the parenchyma. On the cut surface the cortex is thinned and the usual markings hazy and indistinct. Accompanying these changes in the kidneys there are always changes in the arteries in the other parts of the body and almost always cardiac hypertrophy, which is usually marked.

The beginning of this form of nephritis is always insidious and the actual onset is rarely recognized. Most cases begin in patients more than forty years of age but cases do occur at all ages with decreasing frequency down to early childhood. These patients do not recover though the duration of the disease varies from months to many years. Sudden vascular accidents, usually to the heart or brain, may occur unexpectedly and completely change the prognosis by interruping an otherwise almost imperceptible progress.

Treatment. Academically the treatment of nephritis should be considered from the same angles as any other disease, namely the prophylactic, curative and palliative standpoints. Actually the problem is not simple.

The prophylaxis of hemorrhagic and perhaps degenerative nephritis is the avoidance of infection, particularly streptococcal infection. Just how this may be accomplished is a matter of individual opinion. In the fight against bacterial disease the least progress has been against the streptococcus group. Most vaccines and serums have been disappointing. Nevertheless some advances have been made, e. g. against scarlet fever, and these should be employed. In regard to arteriosclerotic nephritis prophylaxis seems to consist of the selection of good ancestors, the avoidance of diabetes and obesity, worry and nervous strain and the establishment of healthy habits of life. Just how this is to be done is not clear.

The previous remarks apply equally well to so-called curative treatment. Definite foci of infection undoubtedly need to be eradicated as possible causes of progression, but the indiscriminate removal of slightly diseased or practically sound teeth or tonsils has no justification. The disturbing effects of operative measures must be taken into account and tonsillectomy, certainly in adults, is to be regarded as a major operation from which the patient recovers only after weeks.

In the actual treatment consideration must be given not only to the kidneys but also to the heart and peripheral blood vessels. Though there is an admitted pessimism as to the results of this treatment still judicious regulation of the lives of these patients with respect to physical and mental activities, diet, etc. and the treatment of the various incidents of the disease as they arise, does accomplish much for their comfort and, in those who cannot recover, prolongs their period of reasonable activity.

There is no medical treatment or therapy for the renal condition itself and for hypertension, at least at the present time, medicines are of no real value, except possibly the various sedatives. All cases do better in a warm equable temperature and all should avoid physical and mental stress and strain. All acute cases and all those showing evidence of activity or progress should be treated by prolonged rest in bed. In fact, nothing except this seems to have any effect on the bleeding of hemorrhagic nephritis. However, in chronic cases, particularly those of the arteriosclerotic type, some exercise is advisable, provided only that it does not produce fatigue which persists.

In addition to these general hygienic measures the most important factor in the treatment of nephritis is the diet. Previous to the last two decades protein restriction in all types of nephritis appears to have been fairly general. Such restriction arose as a logical deduction from the facts that protein metabolism produced urea, and that in renal disease the ability of the kidneys

to excrete urea was diminished. Hence it appeared desirable to reduce the work of the kidneys by lowering the protein intake and thereby the amount of urea that had to be excreted. However, following the recognition in 1905 by Frederick Mueller of the purely degenerative type of nephritis, in which there is maximum proteinuria without nitrogen retention, the belief has been steadily gaining ground that in this type of disease protein consumption should be encouraged rather than restricted. Epstein[11] was the first to advocate this change in which he was followed by many others, so that at present there seems to be a fairly uniform agreement among clinicians that in this form of the disease a more or less generous protein diet is indicated. These patients suffer not only from albumin deficit in the plasma but as a rule from general wasting of the tissues. They require, for regeneration of plasma albumin and for the maintenance of general equilibrium and normal mass of body tissue, diets containing more protein than would keep a normal individual fit. In this type of the disease the chief incapacitating factor is the edema. The most urgent need of the patient is a sufficient increase in plasma albumin to bring the edema under control and frequently such an increase occurs when a patient previously on a low protein diet is put for some weeks or months on a regime containing 90 to 120 grams of protein a day. Forced feeding of larger amounts may, by causing digestive disturbances and general malaise, do more harm than good. Time is necessary for results because it is probable that restoration of serum proteins can be effected only after the depleted tissues have been satisfied. Although complete restoration of normal plasma albumin may be impossible as long as the disease continues, nevertheless the accomplishment of an increase of 0.5% may make the difference between complete incapacity and comparative well being. Similarly in hemorrhagic nephritis with edema and low plasma proteins it is advisable to give enough protein to cover the usual nitrogen requirements of the individual, and in addition a large enough surplus to replace the protein lost in the urine.

In cases of latent hemorrhagic nephritis there is obviously no need for restriction of any of the elements of the diet. Reduction of the diet in these cases leads only to malnutrition, anemia and decreased resistance. In some cases which have been on a restricted diet, a generous protein allowance (1.5 grams or more per kilo) has been followed by improved renal function. It is probable that these cases were in the course of a prolonged convalescence and that the diet affected, if anything, only the rate of recovery. The point is that a more generous protein allowance may accelerate rather than retard convalescence. Certainly a slight excess may be given without danger of augmenting the protein metabolism or increasing the nonprotein nitrogen of either the blood or urine.

There remains the question of the protein diet in those cases of more or less advanced nephritis, in which the most marked evidence of the disease is impaired renal function. Here there is usually no need to replace excreted protein or to regenerate plasma albumin, and one might logically assume that there is more need for sparing the kidneys work in excreting urea. Even here, however, I doubt that clinical evidence justifies forced protein restriction, though the literature is practically without data on which to base an opinion. A patient who, when consuming as much protein as his appetite dictates, has 100 mg. of urea nitrogen per 100 cc of blood, may, it is true, reduce the figure to 50 mg. when his protein intake is reduced to a minimum. But the reduction usually has no demonstrable effect on the course of the disease, and may be accompanied by an apparent loss of strength. One is surprised to see the degree of activity and well being maintained nearly to the onset of uremia by some nephritics who have escaped dietary regulation. It is my belief that we have as yet no criterion for the renal state that requires protein restriction, and that the condition of nephritic patients in general would be happier and the progress of their disease no more rapid if their diets were regulated in accordance with the usual metabolic requirements of persons of their size, age and activity, with due regard to the state of their digestive organs and general condition and without regard to the logical but clinically unproved assumption that protein restriction should accompany retarded urea secreting ability. I do not mean that protein should be forced on such patients but that they should be permitted ordinary amounts to the limit indicated by their appetites, unless digestive disturbances or other practical causes indicate the desirability of restriction.

It is too little recognized that chronic nephritis is a wasting disease, perhaps because all the causes of protein wastage and malnutrition are not clear. For prolonged treatment—and, as this is a chronic disease, treatment must be prolonged—no diet can be satisfactory that does not suffice to maintain nitrogen equilibrium. As in the ordinary course of the disease protein metabolism does not appear to differ from normal, this cannot safely be estimated at less than about 1 gram of protein per kilo of body weight. Ten to twenty grams of additional protein should then be provided to replenish the wasted tissues that are almost uniformly present. In considering these additions we must remember that protein used to build up body tissue and that excreted in the urine does not enter into nitrogen catabolism and presumably cannot influence blood non-protein nitrogen. During exacerbations of the disease, during periods of infection and when uremic symptoms are present protein foods may not be well tolerated and may have to be curtailed. In all these conditions protein catabolism appears to be increased. At any rate, patients on nearly protein-free diets are consuming their own proteins, a process that cannot be allowed to continue for very long without deleterious results. The second requisite of the diet is sufficient calories. To obtain minimum protein catabolism in normal adults 3000 or more calories have to be given daily and there is no reason to believe that the nephritic patient needs less. It may be that he needs more. It is surprising how much food some of these patients can take without any striking gain in weight. The second object then should be to furnish the total caloric requirement in the form of carbohydrate and fat. These high caloric, high carbohydrate and fat diets are especially indicated during the periods of exacerbation or infection just referred to.

In concluding this aspect of the subject one seems justified in saying that until a closer relationship is discovered between some constituent of the blood, or of the diet, and the progress of the disease or the production of uremic symptoms, it is better to individualize dietetic therapy and to direct it chiefly to the nutritive and digestive needs of the patient, with careful attention to its effects upon his clinical condition. A reduction in the level of the blood non-protein nitrogen may be considered a not undesirable secondary aim. Any diet prescribed must be eaten. If the patient refuses to eat, every effort should be made to alter the diet so as to remove the objectionable features. To permit any considerable undernutrition is more serious than to give foods theoretically undesirable. If the patient begins to vomit we must concentrate on getting into him food of any sort that will be retained, in order to decrease the breakdown of tissue proteins.

The second feature of the diet that needs to be considered is its salt content. Apparently this is important in only two types of the disease; those with renal edema and those with severe impairment of renal function. In those cases without a tendency to renal edema and without serious impairment of kidney function there is as a rule no appreciable change in the electrolyte pattern of the blood or body tissues. In the nephrotic type of patient while the tendency to edema formation per se is undoubtedly not only referable to but also proportional to the serum albumin deficit, mineral analyses of edema fluids show that retention of water without sufficient sodium salt to form a solution approaching isotonicity with normal body fluids does not occur. For edema to develop, then, there must be sufficient sodium salts present to permit the formation of an isotonic solution. Thus edema formation is in a way largely proportional to the salt content of the diet. The critical point in the serum albumin level below which edema almost always occurs is approximately 2.5%[12] Below 2% edema can be prevented only by severe salt restriction. As it falls lower the difficulty of eliminating edema by treatment increases. If desirable the sodium salts in the diet may be replaced by those of potassium. Potassium salts, in contradistinction to the corresponding sodium salts, do not aggravate edema and may even induce diuresis. In the later stages of nephritis the disturbances in the electrolytes seem to be more nearly connected with the degree of renal impairment than the type of renal disease. When hyposthenuria sets in and the kidney loses its power to concentrate chlorid in the urine it also loses its power to conserve the salt supplies of the body by the cessation of chlorid excretion. When this loss has resulted in depletion of the salt supplies of the body as a whole it is in turn followed by loss of water and dehydration. At this stage salt restriction seems irrational. The

tendency to retain salt and develop edema is seldom evident unless there is circulatory failure. Certainly when vomiting sets in the parenteral administration of large quantities of saline solution is a more rational procedure.

The third important feature of the diet is its fluid content. Patients with nephritic edema can secrete water in about the same time as a normal person. Furthermore, the absolute quantity of water in the blood stream does not appear to be altered. In other words the blood does not share in the edema. If water does not accumulate in the blood the kidney cannot be held responsible for the abnormal retention of water. This conforms with what we know of the nature of renal edema. Nor do many of these patients have appreciable nitrogen retention. For these reasons most of them can be allowed the usual amounts of fluids, certainly enough for their comfort and an adequate urinary output. In those cases in which diminished renal function has reached a stage where there is nitrogen retention special efforts should be made to give enough fluids to keep the urine volume up to about 3000 cc. In general it may be said that whether or not the concentration of non-protein nitrogen rises or falls in the blood depends upon the rate of production of nitrogen metabolites, the relative speed with which water and nitrogen can be eliminated, and the amount of water available for diuresis. However, the power of the kidneys to concentrate nitrogen metabolites is limited and the limit beyond which, even in nephritics, diuresis no longer increases their excretion seems to be about three liters a day. Usually, for this purpose, the administration of large amounts of fluids by mouth is sufficient. It must, however, be appreciated that it is the volume of urine produced and not the volume of fluid taken, that is important. If, because of vomiting or for any other reason, it is impossible to secure a large enough intake by peroral administrations, subcutaneous or intravenous fluids should be given. If oliguria develops as a result of heart failure, reduction of fluid intake should be made only with the greatest caution. In these cases if circulatory compensation cannot be established by rest and digitalis the outlook for the patient is desperate.

Acidosis is rarely a matter of great concern in nephritis. Though it may occur at any time, it is usually negligible except in the terminal stages of the chronic progressive forms of the disease. The chief factors in its production are the loss of the ammonia producing powers of the kidneys and the excretion of fixed bases. It varies greatly in severity but in extreme cases may attain a severity that rivals the most profound diabetic acidosis. It is the one form of acidosis in which bicarbonate seems to be indicated because the power of the kidneys to readjust the acid pattern by the selective excretion of ammonia and bicarbonate is impaired. However, the only certain benefit of alkali administration is relief from the distress of dyspnea. It is doubtful whether such therapy prolongs life for more than a very short period. Either the acidosis recurs or death fellows from the other effects of the disease.

Diuretics are usually of little value in nephritis if they are not directly contraindicated. True nephritic edema is essentially an extrarenal condition not related to the water excreting powers of the kidneys and consequently is usually unaffected by diuretics. The purine and zanthine derivatives are almost always ineffectual. Ammonium chloride and other acidifying salts should usually not be given because of their tendency to produce acidosis. The mercurial preparations act directly on the kidneys and may produce an irritation which augments the nephritis. Both of these untoward results are likely to be more marked if there is no diuretic response. Nevertheless these remedies may be tried, either separately or together, and at times are efficacious. When used cautiously and intermittently I believe their dangers have been exaggerated.[13] Urea is a natural diuretic and so has been advocated in nephritic edema and in cases with oliguria without marked azotemia. It is non-toxic and as much as 40 to 80 grams a day have been given with excellent results. It should, nevertheless, be given with caution and be discontinued if diuresis does not occur despite a moderate increase of non-protein nitrogen in the blood.

There are two other adjuncts to the treatment of nephritis which probably should be mentioned because they have been used extensively in the past and because their limitations are not yet fully understood. These are sweating and catharsis. If carried beyond very moderate limits both of these procedures are debilitating and both of

them remove from the body fluids which may well be essential to urine formation. There is no doubt that sweat contains both urea and other non-protein nitrogen elements, probably in concentrations slightly greater than those of the individual's blood, but there is no evidence that the sweat glands can serve as important channels for the elimination of catabolic nitrogen. If one compares the small amounts of nitrogen excreted by the skin with the large amounts of water which are known to be eliminated in profuse sweats, it is evident that the skin is a far less efficient organ for nitrogen secretion than even a badly damaged kidney. Ordinarily fecal nitrogen is quite constant regardless of the diet, provided the latter does not contain unusual amounts of undigestable nitrogenous material. For this reason it would seem that most of it is derived from nitrogenous material that is secreted or excreted from the bowel. Fecal nitrogen is increased in diarrhea but this increase seems to represent only unabsorbed food and the products of intestinal secretions which have been augmented by the irritating effects of catharsis. There is no evidence that this nitrogen is increased in nephritis, even when the blood non-protein nitrogen is high, and there is no reason to believe that any of it is catabolic in origin in the same sense as is urinary nitrogen.

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ACUTE SINUS INFECTION IN CHILDREN AND ADULTS

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The more common aspects concerning paranasal sinusitis are well known and recognized. The purpose of this paper is to emphasize or enlarge on some of the salient factors.

Dietetic requirement: Vitamin A as brought out by Amy Daniels and recently by Cody who, working on the effects of vitamin deficiency diets, maintain that Vitamin A in the diet is necessary to uphold the nutrition of the nasal, aural and tracheal mucosa. Vitamin A increases the resistance to upper respiratory infections in children.

Role of Allergy: An allergic state makes the individual more susceptible to acute sinus attacks. Cantor feels convinced that sinusitis in children is primarily allergic in origin.

Trauma or infection at birth or in infancy retards the development of the sinuses, hence they are more prone to acute and chronic involvement. Tanturri, in his experiments on animals, induced trauma of varying degrees and although the mucosa showed a remarkable tendency to recover even after severe trauma, he demonstrated that extravasations and inflammatory exudate extended into the centers of ossification. After three or four months the affected sinus was noticeably underdeveloped. Ingersoll and Carmody emphasize the influence repeated acute infections have on the development of the paranasa sinuses.

Presence of a *filtrable virus* concerned in the production of acute colds: On the basis of experimentally induced sinusitis in animals Linton concludes that purulent sinusitis in the human depends on the symbiotic action of a filtrable virus plus pathogenic bacteria, the former preparing the field for the reception of the latter.

Role of Swimming: Too little consideration is given by general physicians and not sufficiently emphasized by rhinologists. In the presence of a latent or recent cold swimming may precipitate an acute fulminating sinusitis. The writer has observed three such cases in the last few years with two fatalities. With lack of proper precautions swimming may produce a chronic state

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of an existing latent or subacute type of nasal infection. Man has few structural adaptations for an aquatic environment; whereas diving animals are provided with a complicated musculature which forms a sphincter in connection with a special valvular apparatus for closing the naris and thereby protect their respiratory epithelium from the destructive action of water. Dean claims that prolonged chilling of the body from too long in the water or lounging around too long on a tile floor in a wet suit makes the bather more susceptible to infection of the paranasal sinuses. If a child is susceptible to upper respiratory upsets it is best to limit the time to 20 minutes stay in the water. Pool instructors and supervisors of boys and girls camps should be informed of the possible dangers and thereby better safeguard their charges.

Diagnosis: Campbell recommends the use of the nasopharyngoscope and considers it more important than roentgenograms. He uses a 2% cocaine on an applicator to shrink the mucosa. As a rule the diagnosis of sinus infection in children is obvious with a good history and routine rhinologic examination after constricting nasal mucosa with 1% aqueous solution of ephedrine or neosynephrin. A roentgenogram is advisable in the obscure or suspect foreign body case.

Complications apt to test the judgment and experience of the rhinologist. Infants and small children are more prone to 1. antrum empyema, 2. perforating ethmoiditis, 3. meningitis. Adults are more subject to 1. acute sphenoiditis, 2. acute exacerabations of a chronic sinusitis, 3. frontal sinus empyema, 4. frontal lobe abscess. The last two complications are apt to produce meningitis.

Among the serious complications occasionally observed and not usually emphasized are:

1. Pneumonia incidence: Campbell found acute nasal sinusitis present 100% in patients with pneumonia, ages 3 to 90. He thinks pneumonia with sinusitis more prevalent in infants because they are incapable of removing their nasal secretions; whereas, incidence of pneumonia is lower in older children and adults because they can remove excess nasal discharge. He recommends frequent use of suction in infants and children to lessen the occurrence of pneumonia.

2. Thrombosis of the cavernous sinus: Goldman reviewed 123 cases of thrombosis of the cavernous sinus. In 4 cases (three of which were children), the origin was traced to the sinuses, ethmoids twice, ethmoid and maxillary once and ethmoid and sphenoid once.

3. Osteomyelitis of the maxilla and frontal bone. Muggia reported a case of purulent maxillary sinusitis in a new born infant in whom there developed a general septicemia with a circumscribed osteitis of the floor of the sinus which extended through the palate. Syphilis was excluded. He believes the infection was contracted through nursing a person with suppurative mastitis. Lederer traced the pathogenesis of osteomyelitis of the maxilla associated with a purulent rhinitis in an infant by serial histological sections. He noted that the nose is particularly rich in venous drainage; a septic thrombus proceeding by way of the diploeic veins produces a retrograde infective thrombophlebitis.

4. Mental upsets with acute sinusitis: Jacod describes a woman aged 35 in whom during the course of an acute maxillary sinusitis there developed periods of mental confusion and dulness alternating with periods of frightful hallucinations. Puncture of the antrum yielded masses of thick cheesy pus followed by complete relief from mental symptoms. Several years later the patient experienced the same symptoms during another antrum attack. He ascribes the manifestations to toxic irritation in a person whose nervous system is particularly susceptible.

5. Meningismus: the writer reported in 1930 a case of meningismus associated with an acute bilateral maxillary sinusitis in a child 11 years old with prompt recovery on irrigating the antra.

Treatment: Acute paranasal sinusitis is a self limited disease and usually clears up if reasonable precautions are taken. The dictum "one week with medicine and seven days without medicine" holds good for most of the cases, Lederer puts it glibly in the statement "neither experience nor literature seem to solve the problem of therapy." "Hands off" policy or conservative measures suffice in the majority of cases to avoid spread of the infection.

The complications which require immediate surgical intervention are 1. a perforated infected sinus extending. 2. an acute empyema of a sinus draining poorly. 3. a persistent bacteremia associated with an acute sinusitis. 4. meningeal irritation. The degree of care of these complica-

tions depend on the judgment and experience of the attending rhinologist.

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THE COCCYGEAL GLOMUS, A POSSIBLE FACTOR IN COCCYGODYNIA

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The coccygeal glomus was first described by Luschka[1, 2] in 1860 and for some time thereafter was frequently called "Luschka's Gland." It is a small spherical body arising from the middle sacral artery and is located at the tip of the coccyx. The small artery supplying it passes downward along the middle of the ventral surface of the coccyx, under the coccygeal ligaments and through a small opening in the tendinous insertion of the levator ani muscle. The glomus lies just below this opening, imbedded in a fatty and fibrous connective tissue. It is a pinkish yellow spherical structure having a diameter of about 2 mm. in the human adult. The surrounding connective tissue seems to compress the soft tissue of the glomus and form a pseudocapsule. When this false capsule is sectioned or removed the glomus expands to a diameter of about 4 mm. Below the coccygeal glomus is the insertion of the anococcygeal ligament the fibers of which surround the structure and insert on the dorsal surface of the tip of the coccyx. The ligament and the levator muscle join anterior to the glomus, while the coccyx bounds the space posteriorly. This area was examined in four embalmed cadavers, in five fresh specimens removed at operation or autopsy and in the bodies of six new born infants. In the infants the middle sacral artery was first injected as a guide to the glomus, but because of its small size it was found in only two instances. Figures 1 and 2 were drawn from fresh specimens. These show the gross appearance of the glomus and its relation to the surrounding structures. Figures 3 and 4 are low and high power views of sections made from a fresh specimen removed at autopsy and show the histology of the lobule.

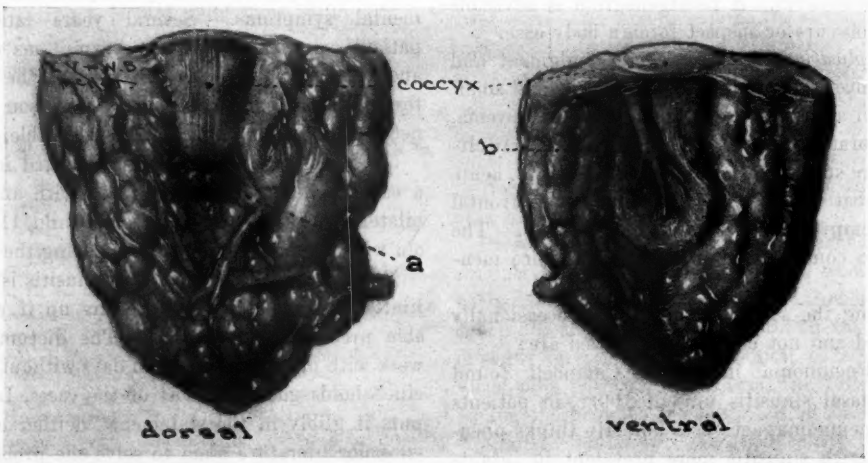

Fig. 1 Region of tip of coccyx showing Glomus Coccygeus.
a—Glomus
b—Middle sacral artery

The coccygeal glomus is first seen in the embryo at the age of 52 days, when it develops as an outgrowth of the middle sacral artery.[3, 4, 5]

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It increases in size and is well differentiated at birth. It was found by Walker[6] in every subject he examined from the three months old fetus to the extremes of life. It varies only in that there is occasionally one main lobule and one or more secondary lobules.

The glomus coccygeus is an arteriovenous anastomosis and is composed of an afferent convoluted artery; the muscle cells in the tunica media are epitheloid in character.[15] The convoluted portions of the vessel adhere and it is this union that gives the glomus its glandular appearance. The efferent veins are tributaries of the middle sacral veins and through them anastomose with the lateral sacral veins. The glomus has a rich sympathetic nerve supply from the pelvic sympathetics.[7, 8] The character of the connective tissue pseudocapsule, the vasa vasorum, the rich nerve supply and the character of the typical cells make the coccygeal glomus of the human an analogous structure to the caudal glomus found in the long tailed lower mammals. Similar structures are found in the bat's wing. In the human there are similar structures found in the skin, especially that of the nose, lobes of the ears, tips of the fingers and under the nails. These cutaneous arteriovenous anastomoses have been described and studied by Hoyer, Schumacher[9] and Popoff.[10]

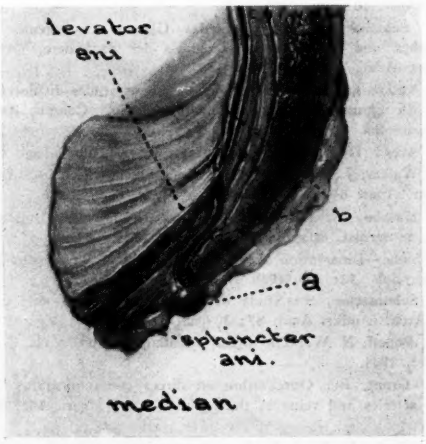

Fig. 2. Median section through coccyx to show the relations of the Glomus Coccygeus.
a—Glomus
b—Middle sacral artery

The function of the coccygeal glomus is unknown. It is certain that it has no function as a gland of internal secretion, as was at first thought. It is more likely a vestigeal structure derived from the caudal glomus of the lower animals and persists in the human in the same manner that the appendix persists. The function of the cutaneous glomera, or arteriovenous anastomoses, have been studied by direct observation by Grant[11] and the Clarks.[12] The coccygeal glomus cannot be so studied because of its concealed location. It is known that the removal of the glomus has no apparent effect. It has been suggested that the function of this structure, as well as the cutaneous glomera, regulates

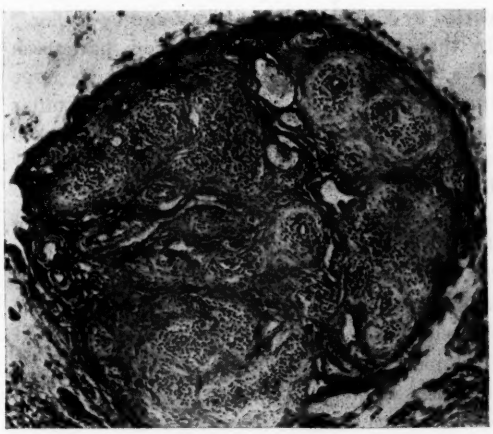

Fig. 3. Microscopic section through Glomus Coccygeus. (Low power) showing structure of the glomus.

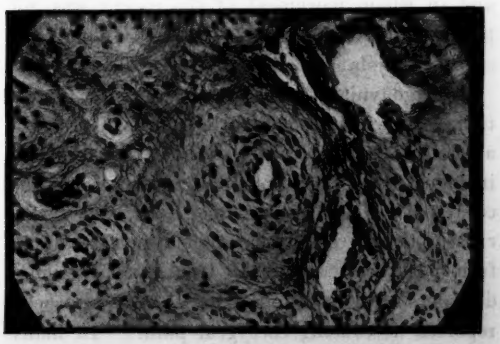

Fig. 4. Microscopic section through Glomus Coccygeus (High power) showing characteristic epitheloid cells.

local circulation, that it may be an organ of heat regulation, and may control the fluid content of the adjacent tissue spaces.

Tumors of the coccygeal glomus have been reported by Von Hleb-Koszanska[15] and by Kofler.[14] In these cases reported the tumors have been of a considerable size. Although these large tumors occur rarely, the smaller tumors similar to the angioneurofibroma or glomus tumors described by Masson, Lewis and Geschichter,[16] Bailey,[17] Horsley[18] and others, may occur here more frequently than is generally recognized. These tumors of the cutaneous glomera are described as being small in size, bluish in color, may vary in both size and color with temperature and emotional states, and are characterized in most instances by severe pain that occurs spontaneously or on light pressure, and by a chronic course. These tumors are benign and are cured by local excision. On microscopic examination their structure resembles that of the normal coccygeal glomus.

Gant[19] discussed a condition of the rectal or coccygeal region which was characterized by pain and which he considered due to an inflammation of the coccygeal glomus. It would seem more reasonable to suppose that pain at the tip of the coccyx associated with tenderness on direct pressure, in the patient with a movable coccyx and in whom movement of the coccyx was not painful, would be due to a glomus tumor of the coccygeal glomus.

Coccygodynia is a relatively uncommon condition. A. L. Smith[20] reported only 17 cases in a total of 15,000 patients. Under this term are included many conditions that cause pain in the coccygeal region: disease of the coccyx,[21] arthritis of the sacrococcygeal articulation,[22] trauma from parturition and direct trauma. Functional disorders of the perineal muscles have also been reported as causing coccygeal pain.[23] In many of the cases without ankylosis or deformity removal of the coccyx brings about cures. The usual technique of removing the coccyx would also remove the coccygeal glomus. If all removed specimens are carefully examined with this in mind more cases of true glomus tumors may be found.

SUMMARY

1. The normal anatomy and embryology of the coccygeal glomus, or gland of Luschka, is described and theories of function mentioned.

2. The similarity of the coccygeal and cutaneous glomera is pointed out, and it is suggested that there are tumors of the coccygeal glomus that are similar to the glomus tumors occurring in the skin.

3. Glomus tumor of the coccygeal glomus may be a factor in certain cases of coccygodynia, and examination should be made of patients preoperatively as well as of the removed coccyx with this condition in mind, in order not to overlook such a condition.

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PNEUMOPERITONEUM FOR PULMONARY COMPRESSION

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Introduction. All phthisiologists realize that a large percentage of pulmonary tuberculosis is not diagnosed until it has become far advanced and, often, hopeless. Of these far advanced cases, there are, however, a small number that will be considered suitable for the generally accepted methods of compression and collapse therapy. With the aid of such measures, these patients offer a fair chance of improvement and possible ultimate recovery. The remainder, on the other hand, are definitely unsuitable for the usual types of special treatment and, for that reason, other measures are given no serious thought. While all physicians prefer to treat patients who have more favorable prognoses, particularly the minimal and the moderately advanced, we must not lose sight of the fact that one of our purposes is to reduce toxemia, alleviate symptoms, and prolong life.[1] With that thought in mind, as well as the possibility of some of these far advanced cases becoming suitable for some form of surgical collapse, pneumoperitoneum was utilized for pulmonary compression in this series.

Historic Note. For centuries it has been observed that pregnancy often has a transitory beneficial effect on the clinical course of pulmonary tuberculosis.[2] Such views were held by Hippocrates,[3] Syndenham,[3] and others. In 1700 and 1800 Cullen[2] and Warren,[3] respectively, went so far as to advise pregnancy in the treatment of the tuberculous female. In more recent years, K. Shaffer[4] followed a series of tuberculous cases over a period of three to eighteen years. Of those who had been pregnant from one to seven times he found about 76% able to work, as compared to 53% of the non-pregnant group. The same writer[4] noted, also, that the mortality of the pregnant was less than 50% of that of the control group. Suggesting that pregnancy may prolong life in some cases, Fishberg[5] states that he has not seen a tuberculous patient die before delivery.

Personal Observations. I have observed, also, that during pregnancy, particularly the second and the third trimester, pulmonary tuberculosis is often favorably influenced. In figures 1A, 1B, and 1C we see a case before pregnancy, during the eighth month of pregnancy, and ten months after delivery. These x-rays require no comment. Figure 1A shows extensive involvement of right upper and left lower lobe. In figure 1B there has been definite improvement, whereas figure 1C shows marked progression of the disease in both lungs.

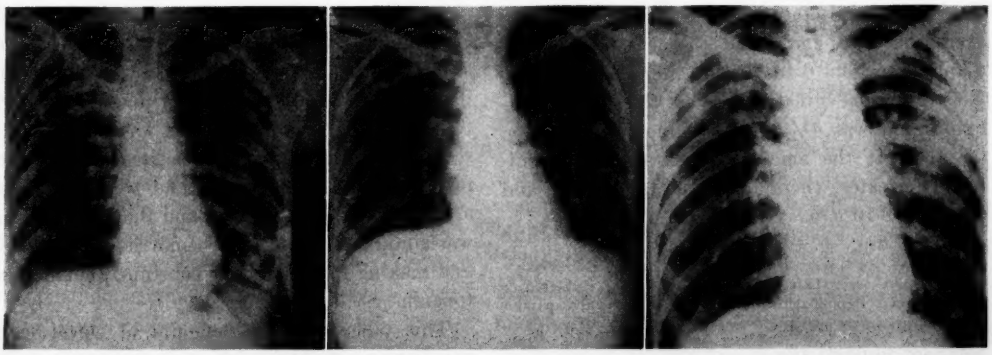


Figure 1A. (Left) X-ray November 27, 1931. Before pregnancy. Involvement of the right upper and the left lower lobe.

Figure 1B. (Middle) X-ray February 23, 1932. During pregnancy. There is definite improvement. Patient felt so well that she did not return to the sanatorium after delivery.

Figure 1C. (Right) X-ray February 2, 1933. Ten months after delivery. Shows marked progression and patient appeared much worse.

Other evidence bearing out the beneficial effect of an increase in intra-abodminal pressure are ascites,[6] the use of abdominal binders,[6] and pneumoperitoneum incidental to artificial pneumothorax.[7] Irrespective of whether such improvement follows pregnancy or an increase in intra-abdominal pressure from some other cause, the

mechanism in each of them seems to be the same. In each case, there is interference with movement of the diaphragm and usually a variable degree of elevation of one or both of its leaves. From the present evidence, it is reasonable to assume that limitation of motion of the diaphragm is about as important as is the amount of elevation.

The Degree of Elevation of the Diaphragm. The amount of elevation of the diaphragm in any case will depend upon the following: First, the rigidity of the diaphragm; second, the intrathoracic pressure; third, the intra-abdominal pressure; and, fourth, the character of the tuberculous process. It has been said[9] that with the aid of pneumoperitoneum the diaphragm may be forced upward to an extent possible only in an unusually successful phrenicectomy. In this series it was possible to measure the degree of rise fairly accurately in 41 cases. In these patients the amount of elevation was as follows: The right hemi-diaphragm from 0 to 4½ c.m., averaging 2.14 c.m.; and the left leaf of the diaphragm from 0 to 10 c.m., the average being 2.80 c.m. The greatest rise of the right hemi-diaphragm was 4½ c.m., obtained in one case. On the left the amount of elevation was uniformly greater, there being one of 7 c.m. and another of 10 c.m. See Table 1.

TABLE 1.

Right Hemi-diaphragm	Left Hemi-diaphragm	Right Hemi-diaphragm	Left Hemi-diaphragm
.00 c.m.	10.00 c.m.	2.00 c.m.	1.25 c.m.
.00 c.m.	1.00 c.m.	2.50 c.m.	1.00 c.m.
.00 c.m.	2.00 c.m.	2.50 c.m.	4.00 c.m.
.00 c.m.	1.50 c.m.	2.75 c.m.	2.50 c.m.
.50 c.m.	1.50 c.m.	3.00 c.m.	2.00 c.m.
.50 c.m.	1.50 c.m.	3.00 c.m.	3.00 c.m.
.75 c.m.	1.50 c.m.	3.00 c.m.	1.00 c.m.
1.00 c.m.	5.00 c.m.	3.00 c.m.	3.50 c.m.
1.00 c.m.	3.00 c.m.	3.00 c.m.	5.50 c.m.
1.00 c.m.	.00 c.m.	3.00 c.m.	3.50 c.m.
1.00 c.m.	3.25 c.m.	3.50 c.m.	2.50 c.m.
1.00 c.m.	3.00 c.m.	3.50 c.m.	2.50 c.m.
1.50 c.m.	3.50 c.m.	3.50 c.m.	1.00 c.m.
1.50 c.m.	4.00 c.m.	3.50 c.m.	2.50 c.m.
1.50 c.m.	1.50 c.m.	3.50 c.m.	1.50 c.m.
1.50 c.m.	3.00 c.m.	3.50 c.m.	3.00 c.m.
1.50 c.m.	4.00 c.m.	3.50 c.m.	3.50 c.m.
2.00 c.m.	4.00 c.m.	3.75 c.m.	.00 c.m.
2.00 c.m.	2.50 c.m.	4.50 c.m.	4.50 c.m.
2.00 c.m.	3.00 c.m.	5.00 c.m.	7.00 c.m.
2.00 c.m.	1.00 c.m.		

With the hope of increasing the degree of rise that had followed unsatisfactory phrenic paralysis, pneumoperitoneum was instituted in three cases. The amount of additional elevation thus obtained was 1:50 c.m. in the first patient, 3.00 c.m. in the second, and 3.75 c.m. in the third case. However, this additional rise of the diaphragm did not result in the obliteration of cavitation or, in other respects, appreciably influence the course of the disease. See Table 2.

This table shows the amount of elevation that was obtained from phrenic paralysis and the additional rise of the diaphragm following the institution of pneumoperitoneum:

TABLE 2

After Phrenic	After Pneumoperitoneum	Additional Elevation
Case 5.....4.00 c.m.	7.75 c.m.	3.75 c.m.
Case 6.....3.00 c.m.	6.00 c.m.	3.00 c.m.
Case 7.....1.50 c.m.	3.00 c.m.	1.50 c.m.

Feeling that further limitation of movement of the diaphragm might make pneumoperitoneum more effective, phrenicectomy or phrenicotomy was done in three cases that had been receiving this treatment for twelve to fifteen weeks with apparent benefit. In these patients phrenic interruption was followed by an additional rise of 2.50 c.m. in the first case, 2.75 c.m. in the second, and 2.50 c.m. in the third. In one of this group it was found possible to discontinue pneumoperitoneum after phrenic paralysis was done; in the second case hemorrhages recurred after pneumoperitoneum was stopped and were controlled after it was re-established; and the third patient was similar to the second, hemorrhages recurring and making it necessary to continue pneumoperitoneum. See Table 3.

This table shows the amount of elevation of the diaphragm obtained from pneumoperitoneum and the additional rise following phrenic interruption:

TABLE 3

After Pneumoperitoneum	After Phrenic	Additional Elevation
Case 8.....1.50 c.m.	4.25 c.m.	2.75 c.m.
Case 9..... .50 c.m.	3.00 c.m.	2.50 c.m.
Case 10.....4.00 c.m.	6.50 c.m.	2.50 c.m.

In both Tables 2 and 3 the measurements given are for the side of the diaphragm operated on.

Diaphragm measurements were also taken in a small series of tuberculous and non-tuberculous cases during the sixth to eighth month of pregnacy and the amount of elevation was as follows: The right hemi-diaphragm from 2.50 c.m. to 4.00 c.m., averaging 3.10 c.m.; and the left leaf of the diaphragm from 3.50 to 4.00 c.m., the average being 3.60 c.m.

The Ill-effects of Pregnancy on Pulmonary

Tuberculosis. The frequently disastrous effects of pregnancy on pulmonary tuberculosis are noted by observation of these patients over a period of from a few weeks to a few years. Such follow-up will show that a large percentage of these patients will reactivate their pulmonary disease sooner or later. This reactivation is, in my opinion, largely the result of sudden drop of the diaphragm following delivery. During the term of pregnancy, particularly the second and third trimester, these patients often show, as previously pointed out, definite clinical and radiologic improvement. Because of this feeling of well being, the importance of bed rest and other treatment[10] after delivery frequently can not be impressed upon the patient.

The Therapeutic Application of Pneumoperitoneum for Pulmonary Compression. Realizing, as previously stated, that pregnancy often exerts a transitory beneficial effect on pulmonary tuberculosis, pneumoperitoneum was utilized for pulmonary compression several years ago.[9] With the same observation in mind, as well as others to which I have referred, this treatment was instituted in a series of 55 cases and was maintained in 41 of these. Most of these patients were unsuitable for other types of compression or collapse therapy and their prognoses were uniformly unfavorable. Therefore, a high percentage of poor results was expected.

While the amount of compression obtained from pneumoperitoneum is limited, it was nevertheless occasionally sufficient to aid in the reduction of toxemia and in the control of hemoptysis. In a few cases small (a) cavities were closed and larger (b) cavities reduced in size. Where excavation was not favorably influenced the compression afforded by pneumoperitoneum has, in some cases, apparently stimulated fibrosis.

Indications: Pneumoperitoneum for pulmonary compression may be found of limited value in the treatment of unilateral or bilateral proliferative disease with small (a) or medium (b) sized cavities. For discussion, the indications for this type of compression may be sub-divided as follows: 1. It may be used as an independent procedure; 2. It may be preparatory to other forms of compression or collapse therapy; 3. It may supplement phrenic paralysis;[11] 4. It may supplement unilateral pneumothorax; and, 5. It may be found of some benefit in the treatment of pulmonary tuberculosis complicated by tuberculous enterocolitis.

(a)—Two c.m. or smaller.

(b)—Two to three c.m.

As an independent procedure, pneumoperitoneum may be tried in those patients who have bilateral proliferative disease, who are not able to take bilateral pneumothorax, and who will probably not become suitable for other forms of special treatment. In a small percentage of this class of patients it has apparently helped to reduce toxemia and in the control of hemoptysis.[11]

Where the disease is predominantly unilateral pneumoperitoneum may, in the same manner, aid in the control of symptoms and, in addition, promote healing contra-lateral involvement, thereby preparing an otherwise unsuitable case for surgical intervention. As will be seen later, three of this series were finally considered suitable for phrenic paralysis or for surgical thoracoplasty. The final results would, however, be regarded as poor.

Even more unsatisfactory results were obtained in three cases in which pneumoperitoneum was instituted after phrenic paralysis[11] and with the hope that additional rise of the diaphragm might retard progress of the disease. In spite of the additional elevation thus obtained, the disease process was apparently uninfluenced and all of these patients expired within a few months.

Similarly poor results were noted where pneumoperitoneum supplemented unilateral pneumothorax. In these cases bilateral pneumothorax could not be induced and it was thought that the compression afforded by pneumoperitoneum might benefit the contra-lateral involvement.

In the treatment of pulmonary tuberculosis complicated by tuberculous enterocolitis it seemed reasonable to assume that pneumoperitoneum may serve a two-fold purpose: First, that it should afford some degree of pulmonary compression and, second, that it would probably relieve, partially or completely, the lower abdominal pain that is so frequent in these cases. As will be seen later, the results in this group were also disappointing.

While I have not had occasion to utilize pneumoperitoneum in this way, it would seem, at least theoretically, that it might be of value at the termination of pregnancy in some tuberculous cases. By this means, the diaphragm could, for a

time, be kept at approximately the same level as before delivery, and later lowered gradually.

Contraindications: Although patients for this series were not selected, there are, nevertheless, definite contra-indications to pneumoperitoneum for pulmonary compression. Among these may be mentioned the following: 1. A patient who is in poor general condition; 2. A patient who is markedly dyspneic; 3. Exudative or acute miliary disease; 4. Large (c) cavities; 5. A rigid diaphragm; and, 6. Stiff walled cavities. These contraindications do not require comment.

The Technique of Pneumoperitoneum. In his paper on pneumoperitoneum in the treatment of tuberculous entero-colitis Binyai[12] covers the technique of pneumoperitoneum very thoroughly and anyone who is interested in this subject will do well to refer to his work.

I usually use the umbilical route, a field being chosen two finger-breadths or more from the median line and at the level of, or slightly below, the level of the umbilicus. The site selected is prepared as usual and the skin and subcutaneous tissue are infiltrated with ½ to 1% novocain. With an 18 gauge sharp needle, introduced upward and inward, the deeper structures, particularly the peritoneum[13], are well anesthetized.

A sharp pain, followed by lessening of resistance, is fairly good evidence that the needle has passed through the peritoneum. In order to exclude the possibility of a mesenteric vessel having been punctured, it is important that the plunger of the luer be drawn outward before an attempt is made to introduce air. Observance of this precaution will, I feel, practically eliminate the possibility of air embolism.

Other evidence that the needle is in the peritoneal cavity is a free flow of air, a manometric pressure below plus 6, and the absence of subjective symptoms. A marked rise in intra-abdominal pressure after the introduction of a small volume of air usually implies the presence of adhesions.[13] In such cases the subphrenic route can sometimes be utilized advantageously.

Unlike artificial pneumothorax, a neutral, rather than a negative, pressure is noted when the umbilical route is used[14] and before any air has been introduced. In that region of the abdominal cavity manometric oscillations are as a rule absent. Partially because of the absence of a negative pressure, as well as the infrequency of oscillations, in the umbilical region, Binyai[15] now advocates the subphrenic route. Utilizing the subphrenic route, he has observed that a negative pressure was usually obtained and that manometric oscillations were present in 50% of his cases.[16]

(e)—Larger than 3 c. m.

Volume of Air: In all cases, except the first few of this series, treatments were started with small volumes of air and the amount gradually increased. The initial volume has usually been 200 c.c. and most cases have received 100 c.c. more at each refill until the maximum amount was reached. The latter is determined by intra-abdominal pressure, fluoroscopic and radiologic findings, and the control of symptoms. In this series the volume of air has ranged from 200 c.c. to 1250 c.c. per week, the average being 675 c.c.

Intra-abdominal Pressure: Closing manometric pressures have ranged from 0 to plus 14, the average being plus 4. In my opinion, high intra-abdominal pressures (above plus 5 or plus 6) should be avoided. As stated previously, unduly high pressures are frequently the result of adhesions.

Fluoroscopic and Roentgen Ray Findings: While, in my opinion, the patient should be fluoroscoped before each refill, the fact remains that the degree of rise of the diaphragm can not be determined accurately by this means. As a matter of fact, the abdominal viscera are often displaced downwards and give the impression that there is more elevation of the diaphragm than actually exists. Roentgen ray films are, therefore, the only accurate means of determining the amount of rise of the diaphragm.

Control of Symptoms: The control of symptoms also aids in deciding on the volume of air to be administered. In hemoptysis cases, the amount of air is usually increased until this symptom is controlled or until the maximum permissible intra-abdominal pressure has been reached. In febrile cases, a similar course is followed.

Frequency of Refills: For a few months after this series was started treatments were given every five days for four to six weeks and at the end of that time the interval was increased to seven to ten days. However, observation has shown that better results are obtained from more frequent insufflations. For that reason, many of these patients were treated twice weekly for a few months, or until the volume of air had been

reduced to 250 or 300 c.c. for each refill. The period between treatments was then increased to seven days, but longer intervals than that do not appear to be advisable for most cases.

Untoward Symptoms: While some discomfort may be expected after pneumoperitoneum, particularly the initial treatment, the fact remains that these symptoms can be minimized. As stated previously, the initial volume of air should be small and the amount given increased gradually at each refill. In addition, it is also well to avoid treatments a short time after meals and before or during menstruation.[17]

Of these symptoms, the most frequent are shoulder pains,[18] pain along the costal margins,[18] dyspnea,[18] and, occasionally, blood streaked sputum.

Pain: Particularly after the initial treatment, the patient complains of pain over the apices. This pain is usually referred to the shoulders. Almost as frequently, patients state that they have some pain over the costal margins. In both the upper and the lower part of the chest whatever discomfort the patient may experience is usually more marked on one side than on the other. It was observed, also, that where pneumoperitoneum follows phrenic paralysis the pain over the costal margin of the side operated on is more pronounced than over the apex and the shoulder of the same side. In no case, however, has discomfort following pneumoperitoneum made it necessary to administer opiates, and only occasionally was the pain severe enough to require ordinary anodynes.

Dyspnea: As the volume of air is increased, dyspnea generally becomes more noticeable but in only a few cases was this symptom severe enough to necessitate the discontinuation of these treatments.[18] It may, however, prevent the administration of as large amounts of air as would otherwise be indicated.

Blood Streaked Sputum: In five or six cases of this series the institution of pneumoperitoneum was followed by streaked sputum or even small hemoptysis. Occasionally, these symptoms are also observed after phrenic interruption. In each case the explanation is probably based on a disturbance of structural relations. Where streaked sputum or hemoptysis have followed pneumoperitoneum, it has usually been found possible to control these symptoms by raising the intra-abdominal pressure.

Other Symptoms: Infrequently, syncope, nausea,[18] and vomiting were observed. Syncope is more common in the very toxic patient who has to stand or walk after the treatment is given. Obviously, refills should be given at the bed side in such cases. Nausea and vomiting, which are also uncommon, are seen in the same kind of cases and are more likely to follow a treatment that is given a short time after a meal.

Complications. In this series the complications that were observed were subcutaneous emphysema, air embolism, massive atelectasis and atrophy of the diaphragm.

Subcutaneous Emphysema: This complication was noted in only a few cases and was the result either of high intra-abdominal pressure or of the needle not being well in the peritoneal cavity. In one of these patients air reached the deeper structures of the neck and produced temporary pressure symptoms. In another case the air found its way to the scrotum but it caused very little discomfort. Invariably, complete absorption occurred in the course of several days and no ill-effects persisted.

Air Embolism: This complication was seen in two patients. In one of these cases the symptoms were mild, but in the second case they were severe and were followed by collapse. There was, however, no fatality and after a few days each of these patients felt as well as he had before the development of this complication. In the prevention of air embolism the most important point is, in my opinion, assurance that a mesenteric vessel has not been punctured. This further emphasizes the importance of drawing the plunger of the luer outward after the point of the needle has passed through the peritoneum and before an attempt is made to introduce air.

Atelectasis: This was observed in two cases and was attributed to interference with bronchial drainage. In each of these patients the prognosis was unfavorable and, because of this fact as well as the poor results that were being obtained from treatments, pneumoperitoneum was finally discontinued.

Atrophy of Diaphragm: Atrophy of the diaphragm (or, at least, loss of muscle tone) was apparently demonstrated in one case, and probably existed in many others. In this patient left pneumothorax was instituted after pneumoperitoneum had been maintained over a period of three months. Following the institution of

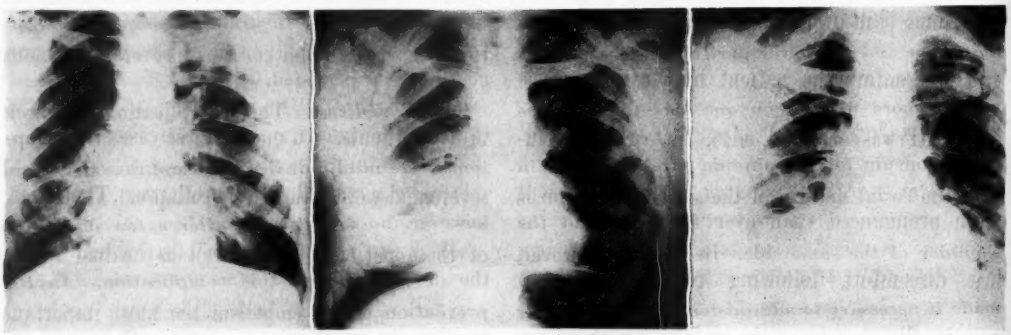
pneumothorax there was, even with a negative intra-pleural pressure, marked downward displacement of the diaphragm. However, the latter returned to normal position a few weeks after the discontinuation of pneumoperitoneum.

Duration of Treatments. In this series the duration of pneumoperitoneum ranged from 1.5 to 24 months, the average being 7.8 months. Contrary to expectation, the development of adhesions seldom made necessary the discontinuation of treatment. It was observed, also, that when necessary pneumoperitoneum could usually be re-established without difficulty. As a matter of fact, treatment was re-established in a few cases. Where re-establishment was necessary there had been, in most cases, a recurrence of hemoptysis after pneumoperitoneum was discontinued. In each of these patients, hemoptysis was controlled within two or three weeks following the re-establishment of pneumoperitoneum.

group pneumoperitoneum was utilized solely for the relief of abdominal pain and with no hope that compression could possibly influence the course of the pulmonary disease. Although diarrhea was not appreciably benefited, abdominal pain was completely relieved in 4 cases, partially relieved in 4, and uninfluenced in 1 case.[19]

Of the other 6 cases who are eliminated from this series, 1 patient received only one treatment and developed an acute pleural effusion following an abandoned pneumothorax; in 2 patients dyspnea became so severe that only a few treatments were given; in 1 case the prognosis was so unfavorable that discharge was approved; in 1 patient peritoneal adhesions were extensive and treatments were given with extreme difficulty; and the last of these 6 cases left the institution against medical advice a few weeks after pneumoperitoneum was started.

After excluding the above cases, there were 41



Case 1

Figure 2A. (Left) X-Ray February 21, 1934. Moderately dense infiltration right lower lobe. Light to moderately dense infiltration left upper lobe. Cavitation both lungs.

Figure 2B. (Middle) X-Ray July 4, 1934. Pneumoperitoneum has been instituted and there is evidence of improvement.

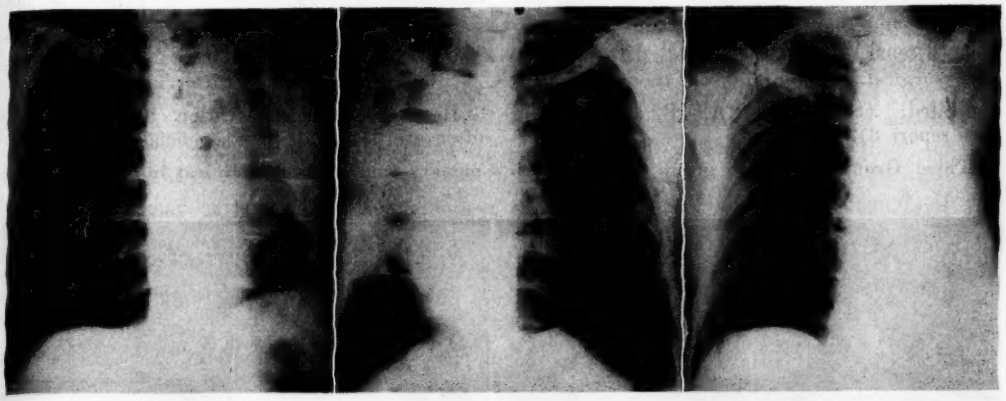
Figure 2C. (Right) X-Ray November 4, 1935. Further improvement, particularly on left. Patient in good condition. Density right lower result of small effusion.

Discontinuation of Pneumoperitoneum. When it becomes necessary or advisable to discontinue pneumoperitoneum, the volume of air should be reduced from 50 to 100 c.c. at each refill. In this series the usual indications for discontinuation have been either poor results or else the patients' condition had improved to such an extent that some other kind of compression or collapse therapy could be utilized.

Results. For both pulmonary compression and tuberculous enterocolitis, pneumoperitoneum was, as previously stated, instituted in a total of 56 cases. Of these patients, 15 cases were excluded for various reasons. In 9 of the latter patients whose treatments were, as stated above, continued over a period of 1.5 to 24 months. Of these 41 cases, 25 are male and 16 are female. All are white. The ages of the male patients ranged from 17 to 43 years, the average being 27.9 years; and the female patients from 15 to 51 years, averaging 23.8 years.

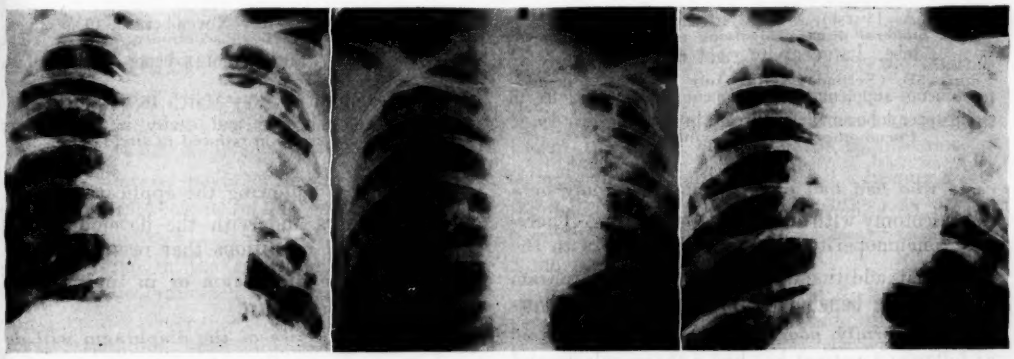
Both for discussion and for the evaluation of results, these cases are grouped according to the indications for the institution of pneumoperitoneum. In the first group, made up of 14 patients, are those cases in which this treatment was instituted as an independent procedure; the second group of 12 patients are those cases in

which pneumoperitoneum was utilized to prepare the patient for some other procedure; in the third group, made up of 5 cases, pneumoperitoneum followed phrenic paralysis; in the fourth group, composed of 3 patients, this treatment outcome of these patients was as follows: 1 case is apparently arrested (see figures 2A, 2B, and 2C, and case report 1); 1 is quiescent; 4 are improved; 5 are unimproved or worse; and 3 are dead. Of the 4 patients who are improved,



Case 2

Figure 3A. (Left) X-Ray August 22, 1932. Extensive involvement left upper lobe with multiple cavitation.
Figure 3B. (Middle) X-Ray January 3, 1934. Pneumoperitoneum has been instituted.
Figure 3C. (Right) X-Ray November 20, 1934. Surgical thoracoplasty has been done. Good results. On discharge was classed arrested.



Case 3

Figure 4A. (Left) X-Ray May 12, 1934. Extensive disease, predominantly left-sided.
Figure 4B. (Middle) X-Ray November 28, 1934. Disease in right lung shows definite improvement. Phrenic evulsion has been done on left.
Figure 4C. (Right) X-Ray November 4, 1935. Reveals progression of disease in both lungs. In mean time, patient had developed renal tuberculosis.

supplemented unilateral pneumothorax; and in the fifth group, of 7 cases, pneumoperitoneum was instituted for both pulmonary compression and the relief of abdominal pain.

First Group: In these 14 cases pneumoperitoneum was, as previously stated, instituted as an independent procedure and with little or no hope that any of them would become suitable for other forms of compression or collapse therapy. The 1 has had a surgical thoracoplasty but the final result is not known at this time.

Second Group: This group is composed of 12 patients some of whom, it was thought, might ultimately become suitable for phrenic interruption or for surgical thoracoplasty. To summarize, the results in these cases were as follows: 1 patient has had a thoracoplasty and on discharge was classified arrested (see figures 3A, 3B, and

3C, and case report 2); 6 are unimproved or worse; and 5 are dead. Of those that are classed unimproved or worse, 1 showed marked clinical and roentgenologic improvement and a phrenic evulsion was done on the left. A few months later surgical thoracoplasty was considered, but it was found that in the meantime he had developed renal tuberculosis. For that reason, further surgical intervention was thought contra-indicated. (See figures 4A, 4B, and 4C, and case report 3).

Third Group: In this group there were 5 cases who had had either a phrenicectomy or a phrenicotomy with unsatisfactory results. Therefore, pneumoperitoneum was instituted with the hope that additional elevation of the diaphram might prove beneficial. The results were, however, uniformly poor and may be summarized as follows: 1 patient has had a thoracoplasty and is classed apparently arrested; 1 is worse; and 3 are dead.

Fourth Group: This group is composed of 3 cases in which pneumoperitoneum supplemented unilateral pneumothorax. In these cases bilateral pneumothorax could not be induced and it was thought that pneumoperitoneum might either benefit, or retard the progression of, the contra-lateral disease. The results in this group are, however, also disappointing and are as follows: 1 case is unimproved (see figures 5A, 5B, 5C, and 5D, and case report 4); and the other 2 patients are dead.

Fifth Group: In the fifth and last group there were 7 patients who received pneumoperitoneum both for pulmonary compression and for the relief of abdominal pain caused by tuberculous enterocolitis. As would be expected, the results in this group are likewise poor and may be summarized as follows: 1 patient is improved; 2 are unimproved; and the remaining 4 are dead.

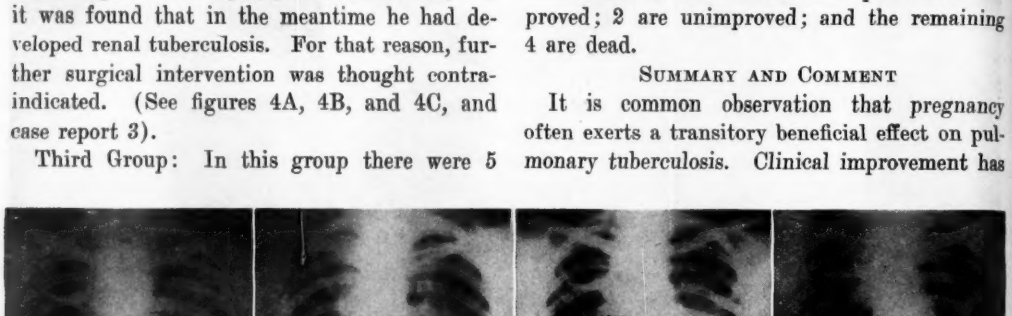
Summary and Comment

It is common observation that pregnancy often exerts a transitory beneficial effect on pulmonary tuberculosis. Clinical improvement has also been noted following the application of abdominal binders and with the development of intra-abdominal conditions that result in either elevation of the diaphragm or in limitation of its movement.

The degree of rise of the diaphragm will depend upon its rigidity, the intra-thoracic and intra-abdominal pressure, and the character of the tuberculous process. Whether such elevation follows pregnancy or pneumoperitoneum, there is usually more rise of the left than of the right hemi-diaphragm.

In most cases, the elevation obtained from phrenic paralysis can with the aid of pneumoperitoneum be increased, but this additional rise of the diaphragm did not, as a rule, benefit the patient appreciably. However, somewhat better results were noted where pneumoperitoneum preceded phrenic interruption.

The often disastrous effects of pregnancy on pulmonary tuberculosis are, in my opinion,



Case 4

Figure 5A. (First) X-Ray November 14, 1934. Extensive bilateral disease, involving right and left upper lobe. Large cavity right upper lobe.

Figure 5B. (Second) X-Ray July 13, 1935. Pneumoperitoneum supplemnting left pneumothorax. Cavity in right upper lobe smaller. Disease in left lung less dense. Pneumothorax unsuccessful on right.

Figure 5C. (Third) X-Ray November 13, 1935. Pneumoperitoneum temporarily discontinued. Cavity right upper lobe larger. Pneumothorax being maintained on left.

Figure 5D. (Fourth) X-Ray March 16, 1936. Pneumoperitoneum re-established and cavity in right upper lobe is again reduced in size.

largely the result of sudden lowering of the diaphragm at the termination of pregnancy, and undoubtely can be minimized by a continuation of bed rest and other treatment after delivery.

The therapeutic application of pneumoperitoneum for pulmonary compression is based on the transitory favorable influence of pregnancy on pulmonary tuberculosis. However, the amount of compression obtained from pneumoperitoneum is very limited and, as would be expected, the results are often disappointing.

When pneumoperitoneum is used for pulmonary compression it is well to bear in mind that the following may be considered contraindications: A patient who is in poor general condition or who is markedly dyspneic, a patient who has exudative or acute miliary disease, a patient who has large or stiff walled cavities and lastly a patient who has a rigid diaphragm.

It may be considered where other more satisfactory measures can not be utilized and where the disease is of a proliferative nature with small or medium sized cavities. Whether the involvement is unilateral or bilateral makes little or no difference except that the prognosis is, as a rule, better in the unilateral case.

The indications for pneumoperitoneum may be subdivided as follows: 1. It may be used as an independent procedure; 2. It may be utilized in preparing the patient for other forms of collapse therapy; 3. It may supplement phrenic paralysis; 4. Where bilateral pneumothorax can not be induced, pneumoperitoneum may supplement unilateral pneumothorax; and, 5. It may be found of some value in the treatment of pulmonary tuberculosis complicated by tuberculous enterocolitis.

The technique of pneumoperitoneum is acquired easily but this procedure is not devoid of danger. Of the possible complications, air embolism is the most serious but it is generally avoidable. With the possibility of this complication in mind, the plunger of the luer should be drawn outward before an attempt is made to introduce air.

The initial volume of air should be small, generally not more than 200 c.c., and the amount given at each refill should be increased until the maximum volume is reached. The latter is determined by intra-abdominal pressure, fluoroscopic and roentgen ray findings and the control of symptoms.

High manometric pressures should be avoided and, in my opinion, closing intra-abdominal pressures ordinarily should not be higher than plus 5 or plus 6. Better results are obtained, apparently, with more frequent refills and without unduly high pressures.

Untoward symptoms are to be expected, particularly after the initial treatment, and the most frequent of these symptoms is pain in the shoulders and over the costal margins. However, this discomfort is minimized by the administration of a small initial volume of air.

Dyspnea is generally insignificant until the patient is receiving fairly large amounts of air. With the increase in the volume of air it, however, becomes more noticeable but it is seldom severe enough to make the patient uncomfortable or to necessitate the discontinuation of treatments.

The complications observed in this series were air embolism, subcutaneous emphysema, massive atelectasis and atrophy (or loss of muscle tone) of the diaphragm.

Treatments were continued from 1.5 to 24 months, the average duration being 7.8 months.

When discontinuing pneumoperitoneum, the volume of air should be reduced 50 to 100 c.c. at each refill. The reasons for discontinuation of treatments have been either poor results or the patients' condition had improved to such an extent that some other type of compression or collapse therapy could be utilized. In only a few cases did the development of adhesions or the severity of dyspnea make it necessary to discontinue pneumoperitoneum.

In patients who experienced a recurrence of hemoptysis after discontinuation of treatment, it was found that pneumoperitoneum usually could be re-established without difficulty.

The results obtained in this series may be summarized as follows: Total number of patients, 41: arrested, 1; apparently arrested, 2; quiescent, 1; improved, 5; unimproved or worse, 15; and dead, 17.

Obviously, these results are very poor, but it should be borne in mind that many of the patients in this series had extensive disease. As a matter of fact, the prognoses were so unfavorable in many of these cases that they ordinarily would be considered unsuitable for any form of special treatment.

It is my opinion therefore that, with selected

cases, a much higher percentage of favorable results could be anticipated.

However, the amount of compression afforded by pneumoperitoneum is limited and it is in no way comparable to that obtained from most other types of compression and collapse therapy.

Conclusion

1. As a method of pulmonary compression, pneumoperitoneum has very limited application in the treatment of pulmonary tuberculosis.

2. However, where other measures either fail or can not be utilized it may aid in the control of hemoptysis and in the reduction of toxemia.

3. In this way, an otherwise unsuitable case can sometimes be prepared for surgical intervention.

4. In some of the bilateral cases that are not likely to be considered for surgery, the compression afforded by pneumoperitoneum may be sufficient to improve the patients' general condition.

5. Where pneumoperitoneum supplemented unilateral pneumothorax it was found that it usually had little or no effect on the course of contralateral involvement.

6. In the treatment of pulmonary tuberculosis complicated by tuberculous enterocolitis pneumoperitoneum may benefit the pulmonary disease and also relieve abdominal pain.

7. In our attempts to obtain a high percentage of arrested and apparently arrested cases, as we may expect in the treatment of the minimal and the moderately advanced, we should not lose sight of the fact that one of our purposes is to reduce toxemia and alleviate symptoms.

8. Whether prolongation of life in hopeless cases is advisable would be open to question.

The writer wishes to express his gratitude to Dr. J. A. Stocker, Missouri State Sanatorium, for his helpful suggestions and criticisms in the preparation of this paper.

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CASE REPORTS

Pneumoperitoneum Instituted as an Independent Procedure

1. G. E.: White, male, age 25 years. Admitted to sanatorium February 19, 1934. Onset November, 1933 with "cold." On admission, appeared very sick. Temperature ranged from 101 to 103 and he was having profuse recurrent pulmonary hemorrhages. Roentgenogram revealed moderately dense infiltration of right lower third with a 2.5 c.m. cavity. In the upper half of left lung there was a light to moderately dense infiltration with a 2 c.m. cavity. Sputum tests were repeatedly positive for acid fast bacilli and blood sedimentation index (Cutler method) was 35 mm. Prognosis was considered very unfavorable. Left pneumothorax was instituted but collapse was lost within a few weeks. Pneumothorax was unsuccessful on right. Temperature remained high and hemotyses continued. Pneumoperitoneum was started May 22, 1934, and was maintained eight months. Excellent results. After a few refills hemorrhages were under control and within a few weeks temperature became normal and remained so. Patient gained from 171 to 210 pounds in weight and blood sedimentation index dropped from 35 to 21 mm. Sputum tests have remained negative for tubercle bacilli since September 12, 1934. This case was classed apparently arrested a few months prior to his discharge. See figures 2A, 2B, and 2C.

Pneumoperitoneum Instituted with Hope of Preparing Patient for Surgical Intervention

2. C. S.: White, male, age 37 years. Admitted to sanatorium August 21, 1932. Onset in 1931 with cough, fatigue, dyspnea and night sweats. Roentgenogram revealed light infiltration right upper lobe with much evidence of fibrosis, and a dense infiltration of left upper and lower lobe. In upper lobe of the left lung there was multiple cavitation, the largest of which measured 7 c.m. in its greatest diameter. The left hemi-diaphragm was elevated and the heart and mediastinum were displaced to the left. Sputum tests were repeatedly positive for acid fast bacilli and his blood sedimentation index (Cutler method) was 27 mm. For several months, or until recurrent hemorrhages emphasized the importance of compression, patient refused all forms of special treatment. Finally, pneumothorax was attempted on the left but was unsuccessful. Pneumoperitoneum was started August 20, 1933. Hemorrhages were controlled and phrenic evulsion was done January 3, 1934. As was expected, the amount of compression thus obtained was inadequate and a three stage surgical thoracroplasty was done July to September, 1934. Since the latter date sputum tests have remained repeatedly negative for acid fast bacilli and his blood sedimentation index has ranged from 5 to 7 mm. On discharge, Octo-

ber 20, 1935, this patient was classed arrested. See figures 3A, 3B, and 3C.

3. C. E.: White, male, aged 23 years. Admitted to sanatorium May 12, 1934. Onset in 1932 with recurrent pulmonary hemorrhages. Roentgenogram revealed a moderate to dense infiltration in right apical and subapical regions with a lighter infiltration involving the remainder of the upper half. This disease showed poor detail but there was no definite cavitation in the right lung. In the middle third of the left lung there was, however, a moderate to dense soft infiltration with multiple cavitation the largest of which measured 4 c.m. in its greatest diameter. A lighter infiltration showing a fair degree of detail was present in the upper and lower third. Sputum tests were repeatedly positive for tubercle bacilli and his blood sedimentation index (Cutler method) was 33 mm. Left pneumothorax was unsuccessful. For that reason, pneumoperitoneum was instituted June 11, 1934. This was followed by both clinical and radiological improvement. There was a gain of 27 pounds in weight and his blood sedimentation index dropped from 33 to 25 mm. Involvement of right upper and middle lobes showed marked retrogression but there was very little change in the left lung. Sputum tests remained positive for tubercle bacilli. Phrenic evulsion was done on the left and pneumoperitoneum was discontinued temporarily. However, hemoptysis recurred and made it necessary to reestablish the latter. Within ten days or two weeks after pneumoperitoneum was reestablished hemorrhages were controlled. A few months later patient was considered for surgical thoracoplasty but it was found that in the mean time he had developed renal tuberculosis. For that reason, thought of further surgical intervention was abandoned. As would be expected, this patient's condition is now worse. See figures 4A, 4B, and 4C.

Pneumoperitoneum Supplementing Unilateral Pneumothorax

4. F. A.: White, male, aged 24 years. Admitted to sanatorium November 13, 1934. Onset in January, 1934, with slight persistent cough and pain in the left chest. Roentgenogram revealed a densely infiltrated right upper lobe with a cavity measuring 6 c.m. The left hilum was surrounded by a moderately dense infiltration which extended throughout the upper lobe. In the left subapical region there was multiple cavitation the largest of which measured 2.5 c.m. In both the right and the left lung the disease showed poor detail. Sputum tests were repeatedly positive for acid fast bacilli and his blood sedimentation index (Cutler method) was 27 mm. Pneumothorax was unsuccessful on the right. A week or ten days later patient began having profuse recurrent hemoptyses and temperature was high. Pneumoperitoneum was started February 14, 1935, but hemoptysis was not controlled. Pneumothorax was instituted on the left and, after a few refills, hemorrhages ceased. There was definite retrogression of the disease in both lungs with reduction in the size of cavities. Sputum tests remained positive for tubercle bacilli but his blood sedimentation index dropped, temporarily, from 27 to 22 mm. Pneumoperitoneum was discontinued for a short time but an increase in the size of the cavity in the right upper lobe made it necessary to re-establish this treatment. Following the re-establishment of pneumoperitoneum, the cavity in the right upper lobe again showed marked reduction in size. However, this patient's condition is unimproved and his prognosis remains unfavorable. See figures 5A, 5B, 5C, and 5D.

INDUCED HYPERINSULINISM

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With the introduction of insulin in the treatment of the diabetic patient by Banting[1] and his co-workers at Toronto, a new era in diabetic therapy was begun. New concepts of pancreatic functions immediately followed.

The use of insulin in diabetics was soon followed by the realization that overdosage was associated with certain symptoms — Banting, Fletcher and Campbell[2] described the vasomotor phenomena, sense of heat, profuse sweat, mental symptoms, etc., which occurred following overdosage of insulin. Shortly thereafter, Seale Harris[3] described a syndrome seen in non-diabetics which simulated the symptoms shown by patients given overdosage on insulin and reported five cases of hyperinsulinism and dysinsulinism. There was a renewed interest in pancreatic function with the introduction of a hitherto undescribed clinical entity and many reports of hypoglycemic reaction secondary to pancreatic disease appeared in the literature. Several writers demonstrated a feasible surgical approach to the problem of hypoglycemia produced by pancreatic over-production of insulin.

The introduction of hypoglycemia shock for the treatment of the psychotic patient is bringing about a new phase in the concepts of insulin action. Manfred Sakel[4] at the Pötzel Clinic in Vienna, treated patients suffering from schizophrenia and other psychoses with massive dosages of insulin with the express purpose of producing a syndrome of hypoglycemia and found a much higher percentage of remissions among psychostics than had been previously noted.

This study was undertaken during the treat-

ment of patients suffering from psychoses in the schizophrenic group, and is a result of an investigation in over five hundred individual doses of insulin, ranging from 15 units to 310 units. Both male and female patients were studied, of whom seven were males and six were females.

The technique consisted of the administration of increasing doses of insulin at 7:30 A. M. and taking blood pressure, temperature and pulse readings at half-hourly intervals. Patients were watched constantly for symptomatology appearing during treatment and where feasible, a neurologic examination was done as frequently as every one-half to one hour. Hypoglycemic reactions were terminated by administration of sucrose in tea by nasal tube when patients were unable to swallow. Treatment was terminated in from three to four hours after administration of insulin which was given intramuscularly. "Iletin" (insulin Lilly) was used in U 20 to U 80 per cc, the U 80 being most desirable for our purpose.

It is the authors' desire in this article to point out the clinical and physiological manifestations of hypoglycemia produced by massive doses of insulin. It is unfortunate that closely correlated laboratory findings could not be made in conjunction with the clinical study but such studies are to be carried out when laboratory facilities permit.

The reactions of the patients varied considerably from day to day but in general similar symptoms tended to be repeated in the same patient. A marked individual difference was shown by different patients in type of symptomatology and the dosage necessary to produce a response.

After examining the material obtained from the study, it was found that the symptoms could be divided into the following groups:

1. Gustatory
2. Vasomotor
3. Neurologic & Mental
4. Cardiovascular
5. Temperature changes

Gustatory manifestations were among the most frequent noted and occurred earlier in the course of the therapy than all except the vasomotor phenomena. Voluntarily asking for food or responding eagerly when food was suggested was very commonly noted. On several occasions, patient dashed out of bed after the tea sucrose mixture or eagerly grasped for another patient's sucrose. As the therapy continued, the desire for food became less evident and during the last two or three weeks of treatment patients rarely requested food. Apparently the failure of not having the stimulus call forth a response is closely related to this loss of "hunger reflex"; snautzmaul, protruding and puckering of mouth, smacking and sucking of lips and tongue, sucking of fingers, bedding, etc., sialorrhea are all included in the group of gustatory symptoms. Like the sensation of hunger these manifestations occurred commonly in from one to three hours after the injection of insulin, and were more frequent within the first three weeks of the treatment.

Vasomotor phenomena formed an interesting group of symptoms and were almost a constant feature throughout the therapy. Patients would begin to show a mild amount of perspiration in the folds of the extremities, about the lips and nose, within about one hour after the injection of insulin. Perspiration would continue to become more pronounced so that within one and one-half hours after treatment, patients would not uncommonly be drenched with a profuse perspiration which saturated bedclothes and bedding. Some of the patients would be soaking in perspiration to be followed in an instant by complete loss of perspiration with the skin being left almost completely dry. Failure to perspire was exceedingly uncommon. With the onset of perspiration, a flush would occur about the cheeks and finally involve the entire face with an area of circumoral pallor which strongly suggested the appearance of a full blown scarlet fever. The flush often tended to take on a cyanotic hue and was not uncommonly followed by an extreme pallor of face and body.

Coldness of the extremities was noted as a rather variable factor and was somewhat more common among the women than among the male patients. The coldness would begin in the hands and feet and spread upward to involve the entire limb and then the entire body. It was usually associated with a pallor of the extremities. In its extreme state, patients would have a deathly pallor of the face with a dusky hue; the limbs and body would appear to be blanched and were cold and moist or sometimes dry. Some patients, during the period of flushing would complain of a sensation of heat and throw off their bed clothes

and during the period of coldness of extremities and pallor would complain of feeling cold although at times the patients would complain of heat when temperature was falling and the body was cold to touch. The tendency to coldness of extremities was less pronounced in the latter weeks of treatment suggesting a readjustment of the vascular beds to the abnormal state induced.

That neurologic manifestations of induced hypoglycemia are of real significance can readily be appreciated by glancing through the literature and noting the frequent references to hyperinsulinism and epilepsy. Seale Harris[5] described three cases of epilepsy and gave a rather comprehensive review of the literature up to 1933 concerning epileptic and narcoleptic manifestations of hyperinsulinism in cases of spontaneous hypoglycemia.

A very wide variety of neurologic manifestations occurred throughout the course of treatment but aside from hypotonia and changes in the reflexes the neurologic manifestations occurred at a somewhat longer period after the injection of insulin, than the vasomotor and gustatory phenomena.

Various explanations for the neurologic manifestations have been attempted. Olmstead and Taylor[6] as early as 1924, attempted to explain the convulsive reactions on an anoxemic basis. Dameshek and Myerson[7] in an interesting procedure showed as much as 37% loss of oxygen by brain tissue after insulin was given to a group of patients thereby tending to substantiate the anoxemia theory. That epinephrine might be the cause of the symptomatology noted was suggested by Cannon, McIver and Bliss,[8] Abe, Y. and Kingelman, B.[9]

Sensory findings were not specifically looked for during neurologic observation. However, ataxia has been described as a symptom seen in the course of hyperinsulinism.

Manifestations noted were chiefly motor in character; tremor of fingers of a severe to mild character was noted frequently. Fibrillatory muscular movements were seen occasionally but twitchings of muscles were very common. Especially was this pronounced in the facial group.

Convulsive seizures and muscle spasms, of a clonic type, involving one or a group of muscles, were common manifestations. Patients once having had clonic convulsions tended to repeat the convulsive reaction at about the same time daily. This tendency of repetition of these reactions was noted in other neurologic phenomena. Although other observers have written of epileptiform or epileptic attacks, Isabel Wilson,[10] quoting from an article by Dr. Mueller, writes: "We have seen 29 epileptic attacks in 9 out of our 30 cases." The author, however, has never seen a convulsive reaction which simulated a grand mal attack in an idiopathic type of epilepsy, although very many clonic seizures were noted. Clonic muscular spasms varied from rigid flexion of the forearm to acute clonic convulsion, with cyanosis, inspiratory difficulty and stridor, suggesting laryngeal spasms. Tonic convulsions were seen only occasionally throughout the treatment. Patients, before and during such seizures, were usually in a state which suggested an increased intracranial pressure or cerebral hemorrhage.

Psychomotor restlessness, with a wide variety of manifestations, such as "bicycle-riding movements" of the lower extremities, tossing about aimlessly in bed (either with the entire body or extremities alone) and a tendency to become combative and jump out of bed were not infrequent. Occasionally, a patient would bounce up and down in bed, and at the same time, exhibit a marked mental excitement. There was a marked tendency for this to be repeated on the following days of treatment. Dysarthria was noted as patients were approaching coma or coming out of it. Apparently aphasia follows the dysarthria, since patients are able to respond by motor reaction to commands, yet are unable to respond verbally as coma approaches. Reflexes showed marked variability. Hypotonia, with diminishing reflexes, occurring early, followed later by exaggeration when other signs of central nervous system irritability were in evidence. Differences in reflexes, on the two sides, was also a common finding. Pathological deep reflexes were elicited frequently during the periods of increased nervous system irritability; Babinski, Oppenheim, Gordon and Hoffman signs were elicited. Ankle clonus was noted at another clinic. A spontaneous response, characterized by dorsiflexion of the large toe and planterflexion of the small toes without flaring, was almost a consistent finding in stages of increased central nervous system irritability. Absence of corneal reflexes was noted in deep coma, with the loss of the swallowing reflexes occurring earlier than

that of the loss of corneal reflex. Abdominal reflexes tended to be lost as the patient became stuporous.

Eye findings were common and tended to show the marked variability, of the neurologic manifestations previously noted. Strabismus, with alternating involvement of different muscles, and nystagmus, were almost constant features as the patients approach coma or while in coma. Unequal pupils, dilated pupils, constricted pupils were all noted with a fair degree of frequency. Alternating dilatation and constriction of the pupils would occur occasionally.

Mental changes, were studied only in so far as they were considered to be a result of the insulin reaction. Most patients tended to become quiet, if previously disturbed, as the hypoglycemic reaction became more pronounced, and finally lapsed into stupor or coma. Excitement was seen early after administration or shortly before coma in a fair percentage of patients. Extreme restlessness and excitement, without the patient tending to go into coma, sometimes necessitated termination of treatment. Lucid periods, during and following therapy, occurred with relative frequency. A more careful study of the mental changes and effect of therapy in a psychosis is being prepared for more specialized investigation.

No spinal fluid study was made by us. Dameshek and Myerson, however, found in 11 cases an increase in the cerebral spinal fluid pressure before any visible reaction, due to insulin, was noted. The content of dextrose during the period of observation (of 45 to 90 minutes) did not become diminished. In animals, Kasahara[11] noted a distinct drop to take place two and one-half hours after administration of insulin.

Cardiovascular symptoms were studied by De Châtel and Palisa, C. H.,[12] who demonstrated sinus arrythmia and flattening of the T-wave on electrocardiogram. Sinus arrythmias and extrasystoles were very frequent, and a tendency to cardiac irregularity more pronounced the longer the period of hypoglycemia.

During the first two months of treatment, patients were kept in coma for longer periods of time than during the latter part of the treatment. It was during these periods that patients showed a reaction at the height of coma or shortly after having received glucose, which resembled a right heart failure. The pulse became exceedingly irregular and weak. There was a pronounced pulse deficit. The patients' lips and extremities became cold and cyanotic. Death, in some cases, seemed imminent; however, all the patients responded to emergency measures for hypoglycemia and shock.

It was interesting to note that cardiovascular failure tended to occur within a short time after the administration of glucose for the termination of coma, and that patients, after such administration of glucose, would occasionally become more deeply comatose, and as the coma deepened, would develop—what seemed to be—a right heart failure. These reactions appeared with much less frequency after the period of hypoglycemia was lessened. Certainly, a more detailed study of cardiovascular conditions in hypoglycemia would be interesting. Bradycardia, with the pulse tending to fall was present in the greater number of cases. A few showed a tendency to have a tachycardia consistently. One of the patients showed many signs indicative of a low basal activity, including a bradycardia, and showed a rise of pulse as the hypoglycemia progressed. The rise shown in this patient was strongly in contrast to the consistent tendency toward a drop noted in other patients without the other signs of a low basal activity. The blood pressure tended to show an increase in the systolic, with a fall in the diastolic, in most of the patients, so that there was an increased pulse pressure in almost all patients studied.

The marked temperature drop noted in several of the individuals, and the almost invariable fall of some degrees, in all patients, was one of the most interesting phenomena noted. Falls of temperature became manifest one-half hour after administration of insulin, and showed a steady fall, with the temperature sometimes dropping to points below the lowest reading of the thermometer. A typical group of readings on one patient, E. B., taken after administration of 195 units of insulin, follows:

7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30
97.8	97.6	95.8	95.	94.2	93.4	92.8	92.2	92.

Temperature usually returned to normal within one to one and one-half hours after termination of treatment. Several of the cardiovascular collapses were noted at the periods of lowest temperature. Attempts were made to control temperature drop by applying external heat from the time at which insulin was administered to the

point of termination of treatment, but a fall occurred despite this endeavor to prevent it, though the fall, in these cases, was not quite as marked as that noted when no external heat was applied.

Visscher,[13] in giving large doses of insulin to animals, reported a failure to notice a consistent drop in temperature. However, European investigators and others working with insulin shock therapy in this country have likewise noted marked tendency toward temperature fall noted by us.

Summary: Patients given insulin shock therapy were studied to observe changes produced by induced hypoglycemia. It was noted that symptoms could be grouped under these five divisions: respiratory, vasomotor, neurologic and mental, cardiovascular and temperature changes. Each group is deserving of a complete and separate study—some of these studies are to be undertaken by the authors.

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THE EFFECT ON THE URINARY BLADDER OF OBSTRUCTION TO ITS OUTLET

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With the interest of the urologic world at present focused on the newer methods of removing obstructing prostatic tissue, there has been a tendency to neglect the effect of the obstruction on the remainder of the urinary tract, and particularly to overlook the important part played by the bladder in the successful emptying of that viscus.

There is a great difference in the manner in which the bladder may react to a progressively developing obstruction at its outlet. In some patients the musculature of the bladder hypertrophies as the emptying becomes difficult, while in others the bladder wall relaxes and becomes atonic. If the obstruction in the prostatic urethra develops slowly, a hypertrophy of the bladder musculature may, for a time, develop in proportion. Patients in whom an increase in the strength of the mechanism for emptying the bladder has kept pace with the development of an obstruction to the outflow will remain free from residual urine for a surprisingly long time. Such a patient will complain of slowness and difficulty in initiating urination and of a progressive diminution in the size of the urinary stream, but on testing his bladder with a catheter after voiding, he may be found to be quite free from residual urine.

Absence of residual urine does not necessarily insure the absence of such symptoms of prostatic enlargement as nocturia and frequency of urination. The nocturia in these cases is not to be explained on the usual basis of an incompletely emptied bladder. In the patients who empty their bladders completely but nevertheless complain of nocturia and frequency, these symptoms are due to a foreign body at the bladder neck in the form of an intravesical protrusion of an enlarged prostatic lobe.

The hypertrophy of the bladder musculature in response to prostatic obstruction can be readily observed by cystoscopic observation of the bladder. The enlargement of the meshwork of muscle bands that run criss-cross throughout the bladder wall stands out in the form of trabeculations. These visible trabeculations do not start up uniformly throughout the bladder but usually appear

in one area and later spread to include the rest of the bladder. On cystoscopic observation of the interior of the bladder at the time of operation on a prostatic obstruction, it is not unusual to see a circumscribed area of rather definite trabeculations in the posterior wall or posterior base of the bladder, which is the region in which they usually make their appearance.

As the trabeculations of the bladder wall increase, the muscle bands stand out in bold relief, and between them depressions or cellules appear. These cellules are the areas of least resistance in the bladder wall, and, as the muscle bands grow stronger and the pressure increases within the bladder during urination, the cellules between the trabeculations grow weaker and form outpouchings which may ultimately enlarge to become diverticula of the bladder. A diverticulum is the giving way of the bladder wall in one area as the result of a prolonged increase of the urinary pressure.

Trabeculations of the bladder wall and diverticula of the bladder are peculiar to the male and are seen in the female only in those very unusual cases of bladder neck contractions in women.

Diverticula of the bladder are not of frequent occurrence, but their presence signifies a long standing, incomplete obstruction to the urinary outflow.

As back pressure on the urinary tract develops as the result of obstruction at the bladder neck, it may be absorbed by a distending bladder. However, in patients in whom the bladder wall has hypertrophied in response to a slowly developing prostatic obstruction, the thick bladder wall will be unable to distend, and the back pressure will be transmitted to the kidneys with resulting depression of renal function. In this manner a hypertrophy of the prostate, if unrelieved, will ultimately terminate life.

It is apparent that the ability of the bladder in some cases to hypertrophy, and so compensate temporarily for the obstruction, is not wholly advantageous to the patient, as the bladder may stand its ground against the increased urinary pressure and transmit that pressure to the kidneys, where it can do the most harm.

It is well to consider the practical application of this knowledge to the practice of urology. Frequently one sees patients who complain of difficulty in voiding but whose condition is not sufficiently serious to make immediate intervention imperative. That such obstruction necessitates abnormally increased intravesical pressure in order to effect an emptying of the bladder is evidenced by the slowness in initiating urination and by the straining and difficulty the patient experiences at voiding. At first thought the physician may assume that, so long as the patient continues to void, it is not advantageous to intervene. However, when one considers that the force required to expel the urine leads to unfavorable changes in the remainder of the urinary tract, and that, even though the patient may be successfully emptying his bladder in the face of a partial prostatic obstruction, he is doing so only by means of an increased intravesical pressure which is damaging at first to the bladder and latter to the kidneys, it becomes apparent that it is not to the best interest of the patient to permit a partial prostatic obstruction to continue and progress.

An obstruction to the urinary outflow does not necessarily lead to an infection of the urinary tract. The presence of stagnant urine in an incompletely emptied bladder does, however, provide a fertile soil for an infection. A pre-existing or an intervening urinary infection will flourish in the presence of an incompletely emptying bladder.

Most urinary infections in the presence of prostatic obstructions are introduced from the outside. Regardless of the care that may be employed in the technique of catheterization, there is no way of preventing the secretions in the anterior urethra and the organisms present at the urethral meatus from eventually being carried back into the bladder. A normal bladder can protect itself against the possible contamination of single catheterization, but the stagnant urine in an incompletely emptied bladder is a fertile soil for infection, and a patient who requires interval catheterization for a urinary retention will quite regularly develop an infection of his urinary tract. By relieving the obstruction before it becomes complete, the added complication of infection can usually be avoided.

As has been stated, some urinary bladders hypertrophy in the presence of a slowly developing prostatic obstruction. In other patients the bladder relaxes and becomes atonic. Such a bladder is incompetent to empty itself completely in the presence of obstruction at its outlet, and after each voiding residual urine remains. As the obstruction increases, the amount of residual urine increases and the bladder slowly distends

and loses its tonicity. By distending, the bladder absorbs the back pressure, but it does so at the expense of its wall. In such an instance, if the incomplete prostatic obstruction is unrelieved, the bladder finally becomes distended to such an extent that, although the patient is still able to pass some urine, he develops a retention that may become enormous. By that time the bladder has been stretched far beyond its normal capacity and may contain several liters of urine without transmitting to the patient an urge to void. A chronically distended bladder loses its tonicity and, after the removal of the obstruction at its outlet, will be a long time in regaining sufficient strength to empty itself completely.

A case in point is considered:

Mr. J. S., aged 64 years, was admitted to the hospital, complaining of progressive difficulty with urination for one year. For several months he had had an increased frequency of urination associated with an inability to void satisfactorily. Recently he had been unable to void more than a small amount at a time and when referred to us had a complete retention of urine. Abdominal examination revealed that the bladder was distended to the umbilicus. As the bladder was not emptied all at one time, it was not possible to determine the exact content. His bladder was gradually decompressed over a period of fifteen hours, and during that time 4,650 cc. of urine was obtained. If his kidneys secreted a liter and a half of urine during that time, his retention on admission was in the neighborhood of three liters of urine.

At cystoscopic examination he was observed to have an intravesical projection of the lateral lobes of his prostate (Grade II) and a median as well as lateral lobe intra-urethral enlargement (Grade I). The excess prostatic tissue was removed by a trans-urethral resection.

At the cystoscopic examination the bladder was so lacking in tonicity that the irrigating fluid was not expelled readily through the instrument, and it was necessary to press on the abdomen in order to facilitate the emptying of the bladder.

When the bladder has become so chronically distended and atonic, the removal of the obstruction will not immediately effect a normal emptying of the bladder. Considerable time will be required for the bladder wall to regain sufficient strength to expel the urine. Once the obstruction has been removed, however, the bladder wall will gradually begin to regain its tone and eventually will again be able to empty itself in a normal manner. Considerable patience is required by the surgeon as well as by the patient during the time that the patient is unable to void effectively. A failure to perceive the cause of the delay in the improvement might lead to discouragement on the part of the patient and to unwise intervention on the part of the surgeon.

In the case described, the patient had just such a chronically distended and atonic bladder, and the following chart indicates the amount of residual urine he carried on each post-operative day, showing the gradualness of the improvement and the ultimate complete recovery.

Post-Operative Day	Residual Urine	
2nd	350 cc.	
3rd	650 cc.	
4th	850 cc.	
5th	150 cc.	Bladder irritant used.
6th	120 cc.	
7th	50 cc.	
8th	175 cc.	
9th	120 cc.	
10th	400 cc.	
11th	360 cc.	
12th	300 cc.	
13th	300 cc.	
14th	210 cc.	
16th	240 cc.	
18th	200 cc.	
20th	100 cc.	
22nd	75 cc.	
24th	40 cc.	
28th	55 cc.	
31st	30 cc.	
37th	5 cc.	

In the case reported, thirty-seven days were required after the obstruction was removed for the bladder to regain sufficient tonicity to empty itself.

There are two requisites for successful emptying of the bladder: one, that an adequate channel be present at the outlet; and the other, that the bladder wall have sufficient contractile power to expel the urine.

In patients with tabes dorsalis, multiple sclerosis, injuries or other lesions of the spinal cord, the atonicity of the bladder is neurogenic in origin. In most instances, however, the antonicity of the bladder is secondary to a chronic incomplete obstruction to the outflow of urine, and by re-establishing a free passage through the prostatic urethra, the bladder will be able eventually to regain the power to completely empty itself.

A few years ago the pre-sacral nerve sympathectomy was introduced in the treatment of atonic bladders, but it has been largely supplanted by prostatic resection, as it has been demonstrated that, after a wide open passage has been established at the bladder neck, the bladder will in time regain its tonicity.

The proper employment of the trans-urethral prostatic resection should revolutionize the management of incomplete obstructions at the bladder outlet. The operations should be used, not only as a cure for prostatic enlargement, but as a preventive of damage to the bladder and kidneys.

In previous years when supra-pubic or perineal

enucleations were the only approaches available for relief of prostatic enlargement, one hesitated to subject a patient who was suffering from only a partial obstruction to such formidable procedures, and the condition was allowed to progress until surgical intervention was no longer avoidable. By that time, too often the bladder and kidneys had taken harm.

In the trans-urethral operation, we have an approach to the removal of the obstructing tissue that carries very little risk and does not confine the patient long to bed or to the hospital. In respect to bladder complications, the proper application of this operation lies in the field of preventive surgery.

When a patient is suffering from a chronic, progressive, incomplete obstruction in his prostatic urethra as evidenced by nocturia, frequency, diminution in the size of his urinary stream and difficulty in initiating urination, it serves his interest best to have the obstruction removed before he develops an atonic bladder or a hypertrophic bladder with resulting hydronephrosis.

It is to be hoped that in the future the unhappy life known as "a catheter life" may be largely avoided. When a patient's urinary difficulty is allowed to progress to the stage where catheterization becomes necessary, the danger of infection is introduced, and a bladder that has been damaged by a long struggle against an increasing obstruction is a fertile field for infection.

Preventive therapy has long held a prominent place in medicine. To institute treatment in the early stages of human disorders, before they advance to their more serious complications, is the goal of medicine. In order to realize this ideal, one must have a method of treatment that is applicable in that it is not too hazardous, does not of itself interfere with the patient's health, and does not keep him from his routine activities for any length of time. With the trans-urethral approach we are now equipped to deal with prostatic problems in their earlier phases. The interests of the patients will in the future be best served by removing prostatic obstructions before they become complete, and before complications have developed in the bladder or upper urinary tract.

Blood iodine level is influenced by the dietary intake of calcium. It is believed that the intake of calcium is an important influence in the body, in that an excess in the diet acts as a prophylactic, whereas a deficiency favors the development of iodism. Thompson, J., *Endocrinology* 20:809 1936.

AUTOHEMOTHERAPY IN PULMONARY TUBERCULOSIS

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The use of the patient's own blood for the curing of disease or for the relief of symptoms is an old procedure and in the past fifteen years there has occurred a revival of interest in this form of therapy. A casual survey of the *Index Medicus* reveals at least fifty clinical conditions so treated, and because of the remarkable success achieved with autohemotherapy in certain subacute and chronic infectious diseases, investigators throughout Europe have tried this form of therapy in pulmonary tuberculosis. In 1930 Jansco[1] treated 114 patients by the combined methods of autohemo and autoserotherapy. His results were excellent and in 1931[2] he repeated his studies with another group and concluded that autohemotherapy offered a specific plan of treatment that could be of great value. Daniel and Schiffbeck[3] repeated Jancso's clinical experiment and found no distinct differences in the course of the disease between patients treated only by hygienic measures and those treated by autohemotherapy. While the continental literature, for the past ten years, offers numerous articles pro and con, the American literature has been noticeably silent on this form of treatment. With this thought in mind, we decided to try this method of autohemotherapy. At the Tuberculosis Division of the Cook County Hospital in Chicago, approximately 1,300 patients are seen yearly and for the most part these are moderately and far advanced types. Fifteen patients were selected with unquestionable pulmonary tuberculosis of the moderately or far advanced types, who were not making progress but who were also not moribund, for these latter patients would offer only poor clinical material for such treatment and we did not expect that autohemotherapy would cure but would merely aid the normal reparative processes already present.

Eight females and seven males were studied for fourteen weeks and each received three treatments per week averaging 52 injections of 10 to 15 c.c. of whole fresh blood taken from the arm under sterile conditions and injected directly into the buttocks, with the blood remaining in the syringe for an average time of 50 seconds.

The weights of the patients were checked at weekly intervals; the T-P-R was recorded daily; the sputum was examined for bacilli bi-monthly; reactions of any kind were noted, and each patient was studied roentgenographically before and after the experiment to determine whether any change had occurred which could not be detected by physical examination of the chest. None of our patients received pneumothorax treatments, but all were either semi-ambulant or confined to bed and were subjected to the standard therapeutic regimen of the hospital. For our controls we used the record findings of each patient prior to and after the experiment, as well as the findings in a similar group treated with artificial pneumothorax.

Summary of Results: 1. None of the patients were gaining in weight before the experiment began. After two months of treatment, six showed a gain in weight, varying from one to seven pounds, averaging four pounds.

2. Eleven patients were losing weight before the experiment began. Of these, five stopped losing and this may be interpreted as a gain; two showed a gain in weight from one-half to three pounds, and four continued to lose.

3. The weights of four patients remained at a stationary level before the experiment and all showed a gain in weight, averaging four pounds.

4. All the patients were subjectively improved in that they evidenced improved appetites, better mental attitudes, lessened cough and lessened sweats.

5. Objectively, however, the results were less pronounced. In three patients the sputa became negative after two to two and a half months of treatment. The remaining twelve evidenced no change. The physical and roentgenologic findings were not altered in any of the patients. In only two patients did the temperature come down to normal levels.

6. Two patients died within three months after the experiment was concluded. Five of the six patients continued to gain in weight and continued to evidence subjective improvement, but the remaining eight either continued to lose in weight or maintained a stationary level. Of these eight, four pursued a downward course during the next six months and three died.

7. No toxic effects, local or general, were evidenced in any of the patients during the 14 weeks of the experiment, although five of the men had an associated arteriosclerosis and one was a mild diabetic.

8. Considering a similar group of 15 patients treated according to the same hospital regimen except that they received pneumothorax without any autohemotherapy, the results were not comparable in that this group made much better improvement objectively and subjectively.

9. There was only a slight difference in favor of the group treated with autohemotherapy as compared with a similar group treated by routine hygienic-rest management without pneumothorax.

Discussion: Many theories are offered to explain the mechanism of action of autohemotherapy. Koenigsfeld[4] states that the serum of patients suffering from infectious disease may contain abundant autogenous immune substances and yet may not save the patient from a fatal outcome, while the administration of very small quantities of foreign immune substances may bring about recovery by passive immunization. Thus, while such antibodies to certain bacteria may be found in normal serum, they have little protective power against infection by these bacteria, and it is conceivable that the effect of autohemotherapy is due to its specific passive immunization. D'Amore[5] found a strong reaction of the medullary and reticulo-endothelial systems after injection of the patient's own blood with the production and emission of a large number of white blood cells and histiocytes into the circulation, a large part of which return to the tissues around and in the pulmonary lesion. The presence of these cells, in turn, produces a reaction in the surrounding tissues which results in the destruction of the leucocytes (whose ferments are returned to the circulation to act on the circulating tubercular products) and in the formation of a tissue granulation which encapsulates the tubercular focus. Cramer, quoting Vorschutz,[6] states that blood serum contains 36% globulin and 64% albumin. In response to the entrance of any injurious substance into the body, there is an increase in globulin which carries the immunobiologic properties of the blood. By electro-osmotic methods it is demonstrated that in inflammatory conditions there develop first pseudoglobulins, carrying chiefly antitoxins, which persist for three or four days, and later these form into euglobulins with agglutinating and complement-fixing properties,

of which only 15% carry antitoxin. If, therefore, the patients' own blood is injected during the first days after the onset of infection, a passive immunization results, for during this stage the blood contains principally antibodies. Thus, autohemotherapy is indicated early in infectious diseases for the non-defibrinated blood, containing principally the pseudoglobulins and their bacteriocidal and antitoxic substances, acts like a highly specific serum, specific not only to the type of bacteria, but also to its strain. Lumieré[7] stresses the colloid theory. The colloids in the serum and those in the red blood cells cannot mix in the blood under normal conditions because the globular protoplasm is retained within the cells by a semipermeable membrane. When the blood, taken from the blood vessel, is reintroduced into the body, lysis of the corpuscles occur, making possible the colloidal reactions, observed in vitro as a flocculation. Vivanco[8] emphasizes that this procedure stimulates the production of enzymes and antibodies and is, therefore, a specific form of therapy. Most men, however, are in agreement that regardless of the mechanism, autohemotherapy is in the nature of a mild foreign protein therapy. Smirnoff[9] is of the opinion that the blood, after being removed from the body, becomes a foreign protein, as a result of which it becomes non-specific. He explains its action by a biochemical theory of non-specific immunity and indicates the possibility of influence by way of the vegetative nervous system and the endocrine glands. He finds that immediately after the injection there occurs a decrease in the number of leucocytes which is maximal in 20 minutes and returns to normal in one to one and a half hours. Later a relative increase in the neutrophiles with a relative or absolute decrease in the lymphocytes occur, representing a stage of anaphylaxis. Thus there appear to be two phases: a negative phase associated with the phenomena of lymphopenia, relative neutrophilia and a shortening of the coagulation time and a positive phase associated with an absolute neutrophilia and monocytosis, an increase in red cells and hemoglobin. On the basis of results large doses have a depressing influence, medium doses a depressing followed by a stimulating effect on the intracellular ferments, while small doses increase the activity. Amneim[10] points out that the blood, after removal from the vein, becomes heterogenous, and while the effect of the autohemotherapy is manifested in the entire body, the chief point of attack is directed towards the inflamed parts, probably causing an autoimmunization which leads to encapsulation and calcification.

This discussion does not by any means exhaust the entire gamut of theories offered to explain the effects of autohemotherapy. It is fairly obvious that the great variety of theories offered indicates that the last word has, as yet, not been said. While the whole question of immunity is in a permanent state of flux, it is best to consider the mechanism of action in this form of therapy as that of a mild protein therapy. The blood, after being removed from the body, in the short time which elapses before re-injection, goes through some change, as yet unknown, and becomes a heterogenous foreign body. The response, therefore, is similar in a way to that of any foreign protein therapy with the production of specific antibodies or some similar immune body. That this is so is indicated by the studies of Sorrentino[11] who found that the sedimentation rate diminished constantly as the injections were continued and that the protein content of the blood approached to within normal values. Since the sedimentation rate is directly proportional to the fibrinogen content of the plasma, there occurs a decrease of the fibrinogen content and a decrease in plasmotic colloidal liability with an accompanying change in the globulin-albumin ratio in favor of the albumin. In other words, the autohemotherapy not only has a normalizing effect on the hematic protein content but also affects the colloidal lability of the plasma by a redistribution of its protein components. It must, however, be stressed that the substances which give the blood the characteristics typical of the heterogenous protein are not present in the circulating blood but are formed during the "exteriorization" of the blood.

While the dangers involved in autohemotherapy are slight, they must, nevertheless, be considered. Steinberg[12] emphasizes that occasionally local, focal and general reactions may occur. Patients also suffering from the effects of arteriosclerosis and hypertension should not be subjected to this form of treatment and Jouan[13] urges that in every case the urine be repeatedly examined for albumin and if found, the treatment must be stopped as this indicates toxicity with a possible renal involvement.

Conclusion: A group of 15 tuberculosis patients were treated with autohemotherapy, receiving three injections of 10 to 15 cc. of whole blood per week for 14 weeks. While there was abundant evidence of subjective improvement, objectively, very little was accomplished. There was no comparison with the results achieved in a similar group treated with artificial pneumothorax, but the results were, nevertheless, somewhat better than those obtained in a third group treated according to the principles of rest and hygienic care. The injections were tolerated well and caused no discomfort.

There can be little doubt that this form of therapy serves a beneficial purpose because of the subjective improvement experienced by most of the patients. Whether this may be due to a specific or to a non-specific protein effect of the re-injected whole blood is at preesnt a moot question. However, it must be stressed that results will only be achieved in patients who have an intrinsic healing power, for if this does not exist, no therapy will avail.

We feel that this form of therapy is worthy of further and more wide-spread trial and may be a successful adjunct to the routine treatment of pulmonary tuberculosis with and without artificial pneumothorax.

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FUNCTIONAL HEART MURMURS IN NEWBORN INFANTS

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The term "functional" as applied to heart murmurs is arbitrary. Synonymously used terms are: "accidental," "accessory," "adventitious," "hemic," "atonic," "physiologic," "non-pathologic," and "non-organic." All imply absence of structural changes in the heart but none is entirely appropriate. Therefore, as long as no satisfactory substitute can be offered, continued use of the term "functional" seems justified. Terminology based on etiology is impracticable because the etiology of functional murmurs is uncertain.

Explanations regarding the genesis of functional murmurs are largely conjectural and discussion of the various hypotheses found in the literature can probably be omitted without great disadvantage.

The literature concerning functional murmurs in older children is quite extensive, that concerning infants (especially newborn infants), on the other hand, is rather sparse. Some authors attempt to explain all murmurs occurring in infants on the basis of patency of fetal circulatory structures (ductus arteriosus and foramen ovale), others concede that functional murmurs do occur but attribute them to anemia or other pathologic conditions. Reuss[1] quoted several authors to the effect that the circulation in the newborn may temporarily revert to the fetal type because of a change in pressure relations in the two sides of the heart, (usually caused by interference with the pulmonary circulation), with resultant murmur formation and cyanosis—"Mischungscyanose." He reported three cases of transient murmur without cyanosis in newborn

infants suffering from cerebral hemorrhage. In his opinion these murmurs as well as some which he observed in older infants were attributable to retarded transition from the fetal to the extrauterine type of circulation. Jacobssohn[2] stated that practically all observers agree that non-organic heart murmurs are not encountered until after the third year of life, and that this view had been incorporated in the important German textbooks on pediatrics. The object of his case report of a murmur in an infant with melena was to add support to the few observations in the literature regarding the occurrence of accidental murmurs in early childhood. As early as 1902 VonStarck[3] reemphasized his opinion that anemic murmurs occur during infancy. In discussing atelectasis Holt & McIntosh[4] made the general statement that "loud accidental murmurs may occur at this age." In view of the sparsity of reports and the lack of systematic observations, collection of data regarding functional murmurs in newborn infants seemed of practical as well as academic interest.

Investigative Work. Newborn infants in the ward nursery at Presbyterian Hospital were examined twice a week. For several reasons more than half of the infants were examined only once or twice. As a rule they remained in the nursery only nine or ten days. Thus infants examined the first time on or after their third day of life were not likely to be present for a third examination. Some infants were nearing the end of their stay in the nursery at the beginning of the study and some were born prior to its termination. A few were absent from the nursery at the time of the examinations.

Examinations were made with as little disturbance as possible. The infants were left in their baskets (lying on their backs) with only a sufficient part of their chests exposed to permit auscultation of the cardiac area. Since examinations were made shortly after the 10 A. M. feeding most of the infants were quiet; many were asleep. Thus interference with auscultation was reduced to a minimum.

Results. The incidence of murmurs showed considerable variation. On one day no murmurs were encountered among 16 infants. On another day 5 of 18 infants presented murmurs. At times a murmur was found to be inconstant during an examination or it might be present on one examination and absent on another. (See Table 3.)

The numerical and percentage incidence of murmurs is given in tables one and two. As will be seen in table 1, 26 of the 105 infants examined presented murmurs, an incidence of 25%. From table 2 it is obvious that the incidence is proportionate in some measure at least to the number of times infants were examined. Among infants examined only once the incidence was 12%, among those examined twice 15%, and among those examined three times 37%.

Murmurs in infants examined three times presented no characteristic distribution (Table 3). They were encountered with about equal frequency during the early, middle and latter portions of the newborn period. Only two infants examined three times were found to have murmurs on every examination. In one of these a congenital heart lesion was suspected because of the location, intensity and quality of the murmur.

The murmurs heard in the newborn infants correspond fairly closely to those heard in older children. All murmurs are systolic in time, some occupying practically the entire systole, others the early, middle, or last portion of systole. Almost invariably they are heard loudest over the apex. Although some murmurs are quite loud, most are soft and blowing in character. Not infrequently a musical quality is observed. Some murmurs are so soft that they can readily be missed, especially if the infants are restless during the examination. The intensity of a murmur may vary from one examination to another or during the same examination.

Comment. The character and location of the murmurs certainly argue for their functional nature. If patency of the ductus arteriosus or foramen ovale were of etiologic importance the murmurs should be similar in character to congenital heart murmurs, and their maximum intensity should be over the cardiac base rather than over the apex.

Neither can the cause for the murmurs be sought in extracardiac pathology in the infants. With few exceptions the infants who presented murmurs were normal clinically. One had suffered a hemorrhage following circumcision. Another had a cephalhematoma and petechiae of the scalp. A third had a forceps mark on the cheek. And a fourth was jaundiced and had an

accessory ear. Assuming that these conditions might have an etiologic relationship to the murmurs, a large proportion would still be unaccounted for pathologically.

The argument that the strain of labor may be responsible for murmurs in newborn infants is gainsaid by the fact that murmurs are frequently encountered in older infants. By careful observation it is possible to detect murmurs in a large proportion of infants.

Finally, it may be stated that there is no reason to think that conditions which are responsible for functional murmurs in children may not obtain for newborn infants also.

SUMMARY

Twenty-six of 106 (25%) newborn infants were found to have heart murmurs. The incidence varied from 12% in infants examined only once to 37% in infants examined three times. For various reasons the murmurs are regarded as functional.

TABLE 1. INCIDENCE OF MURMURS IN NEWBORN INFANTS

Number Examined			Murmurs		
Male	Female	Total	Male	Female	Total
49	56	105	15	11	26 (25%)

TABLE 2. RELATION OF INCIDENCE OF MURMURS TO NUMBER OF EXAMINATIONS IN NEWBORN INFANTS

One Examination		Two Examinations		Three Examinations	
No.	Murmurs	No.	Murmurs	No.	Murmurs
16	2 (12%)	40	6 (15%)	49	18 (37%)

TABLE 3. DISTRIBUTION OF MURMURS IN NEWBORN INFANTS EXAMINED THREE TIMES

First Examination		Second Examination		Third Examination	
Age (days)	Result	Age (days)	Results	Age (days)	Result
3	—	6	+	10	+
2	—	5	—	9	+
1	+	5	—	8	—
1	—	5	—	8	+
D. B.*	—	4	+	7	+
D. B.	+	3	—	6	—
D. B.	—	3	+	7	—
2	—	6	+	9	—
D. B.	+	3	+	7	—
1	+	4	—	8	—
1	—	4	+	8	—
1	+	5	—	8	+
1	+	4	+	8	+
4	+	7	+	11	+
D. B.	—	3	+	7	+
1	—	4	+	8	—
1	—	5	—	8	+
1	+	4	—	8	—

*D. B. indicates day of birth.

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ON MONGOLISM

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This paper is concerned with a brief review of the etiological factors which have been recognized in mongolism, and a report of two pairs of twins in whom mongolism appeared.

In recent years the subject of mongolism, especially as it occurs in twins, has received a good deal of attention. Although mongolism was mentioned as long ago as 1843 in France and was recognized as a clinical entity by Langdon Down in England in 1866, studies of mongolian idiots have been made until recently principally in terms of its feeble-minded aspects. More and more recognition has been given to the peculiarities of mongolism, that is, to its differential aspects from ordinary feeble-mindedness. It need hardly be mentioned in this paper that the term mongolian idiot is erroneous. Rarely is the mongolian idiot an intellectual idiot, that is, rarely is the I. Q. of the mongolian idiot below 30. Nor are the mongoloid features structurally descriptive of the mongol. Indeed, cases of mongolian idiocy have been reported among Mongolian people. Nevertheless, the diagnosis is made on the basis of the mongol features of the feeble-minded child, in addition to other structural defects and given features in the personality makeup.

In 1934 Rosanoff and Handy[1] published a summary of all the known reported cases of mongolism in twins. Table 1 shows that only 64 cases of mongolism in twins have thus far been reported. In each of the 36 cases of dizygotic, only one of the twins was a mongolian idiot. Of these, 13 were of the same sex, 6 males and 7 females, and 23 were opposite sex twins. In no instance were both of the dizygotic twins affected.

The evidence from these data indicate that the frequently stated theory that mongolism is a germ plasm defect is probably more tenable than

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[1] The original examinations of the reported twins were made by Elinore Tjaden.

the theory which maintains that causes operative during pregnancy are responsible for the mongolism. In this regard, Jenkins[2] states that the patients at the South Dakota State School and Home for the Feeble-minded 18 are mongolian idiots. The average age of the mothers at the births of these mongols was 34.5. Studies have shown that parental age is a factor only as applied to the mother, that of the father having only an indirect bearing by reason of being in correlation with the age of the mother. Rosanoff and Handy believe that the size of the family, order of birth, uterine "exhaustion," and other such factors play no part in the etiology, but stand out only by reason of their correlation with the one real factor—the age of the mother.

TABLE 1
(After Rosanoff and Handy)

Type of twin	No. of Cases	One Affected	Both Affected
Monozygotid, males	3		3
Monozygotic, females	5		5
Type unascertained, males	9	7	2
Type unascertained, females	6	4	2
Same sex, Dizygotic, males	6	6	
Same sex, dizygotic, females	7	7	
Opposite sex, dizygotic	23	23	
Type and sex unascertained	5	5	
	64	52	12

data obtained on mongolism in twins substantiates the theory that unknown defects of the germ cell are to be considered as etiological. Halbertsma[3] states that the conclusion that mongolism is germinal in origin is deducted from the fact that mongolism in one twin reveals that all have resulted from a two-egg pregnancy. Cases of mongolism in both twins of opposite sex are unknown. A relatively large number of cases in like sex have been reported, however. In this respect, Deitrich and Berkley state that mongolism must be "due to a defective germ plasm, and is, therefore, a developmental defect.[4]

Contrary to this conclusion is the statement of Russell[5] who states that the existence of binovolar twins, both mongols, makes it seem unlikely that the cause of mongolism is "more innate in the germ plasm" than due to maternal causes or abnormal environment of the ova. However, the data in Table 1 do not substantiate this theory. Of the cases recorded, the eight in which both were mongols were known to be monozygotic. Of the other four in which both were affected, it was not known whether they were identical or unidentical twins.

The second most frequently discussed theory is that which involves the age of the parents. Following a statistical study of the ages of mothers at the time of mongol births, Jenkins stated, "I believe that the possibility of the birth of a mongolian idiot to be worth consideration in the case of all women past forty." The literature contains a good deal of statistical evidence to indicate that the age of the mother is a factor in the production of a mongol offspring. Warner[6] reported that of 53 mothers of mongols, the average age at the mongol birth was 35.7. Of 650

It has been suggested that mongolism is due to a diminished viability of the ova, that "in the population of the ova there is continually a certain mortality rate and in a period between that of complete viability and that of failure of reproductive function the ova passes through a mongolian-genetic stage."[7] The birth of a mongolian idiot is frequently preceded by a period of diminished fecundity. Shuttleworth stated that mongolian idiots were particularly prone to be borne of mothers toward the end of the reproductive period, and especially to be the last-born of a long series of children. This viewpoint has been contradicted by many investigators. For example, data from the South Dakota institution for mental defectives shows that the mongolian idiot was fourth in birth rank. Halbertsma is of the opinion that the only fact which can be asserted as having etiological significance is that the great majority of mongolians are the children of mothers who are nearing the end of the child bearing period. Jenkins also believes that mongolism is caused by a diminished viability of the ova and he further believes that this seems to be the most satisfactory explanation.

Many causes other than the two which have been discussed have been mentioned in the literature. As an example, syphilis has been prominently mentioned by a variety of investigators. One interesting example was the presentation by Van der Bogert of a pair of twins, one of whom was normal, and the other who presented signs of mongolism and congenital syphilis. A number of careful studies have shown, however, that the frequency of syphilis among mongolian idiots is no greater than among other mentally defective or normal children. In one study it was found that only two children were syphilitic among 74 mongolian idiots.

Glandular deficiency has also been advanced as an etiological factor. This theory has been given credence especially because many pediatricians believe that mongolism is due to fetalism, that is, the newborn mongolian idiot is born not at physiological maturity but perhaps at the ordinary maturity of a seven or eight-month-old fetus. The arrest in development may therefore be due to glandular disfunction not severe enough, however, to be detected after birth. Clark[8] believed that mongolism is caused by fetal thyroid dysfunction ceasing at birth. The thyroid dysfunction may bring about the physical and mental defects in the same way as cretinism causes physical and mental deficiencies. Failure of the mongol to respond to glandular therapy, however, lends weight to the view that the condition is a general failure in development rather than a specific endocrine dyscrasia.

Jansen expressed the theory that the amniotic sac may be small and tight, causing increased pressure and excessive bending of the fetal head. He suggested that this condition may result in anencephaly, achondroplasis, or mongolism, depending upon the age of the embryo when the pressure occurs. In the instance of mongolism, the pressure may occur during the sixth or seventh week of pregnancy. This theory perhaps has some corroboration in the report of C. P. Lapage[9] of mongolism and achondroplasia in twin brothers.

Tumpeer[10] emphasizes the findings of investigators who have shown that families which contain mongolian idiots have a disproportionate number of abnormalities such as a cleft palate, hairlip and so forth. This led to the theory that mongolian idiocy is itself a malformation, not necessarily of one part of the body, but of the body development itself.

Stafford MacLean[11] presented a case of mongolism in one of twins and explained it by the so-called fertilization theory. If two ova were fertilized by two spermatozoa, one of the ova may have been fertilized by a normal spermatozoan, which resulted in the normal infant. The other ovum might have been abnormal and fertilized by a normal spermatozoan or might have been normal and fertilized by an abnormal spermatozoan. The result may be the mongolian idiot.

Case Studies. The following cases of mongolism in one of twins are particularly interesting because of their unusual character. Both are cases of mongolism in one of same-sex twins, one male and one female.

Case 1. R. S., a girl was born October 1, 1916, following a normal full-term pregnancy. Instruments were used to deliver both R. S. and her twin, but no injuries were reported. She began to talk at two years, and can express herself now only with some difficulty. She began to walk at the same age. It was at this time that her backwardness first manifested itself. The patient never suffered from convulsions or epileptic seizures. In addition to measles and whooping cough she had diphtheria for five weeks when she was seven years old. She attended public school for three weeks when she was six. Since that time she has been tutored by her mother and her twin sister. At present she can solve simple problems in arithmetic and read a little.

The patient is typical of the monogolian type. Almost half a head shorter than her twin, she has the slanting wide-set eyes of the mongol, the coarse, straight hair and stubby fingers. She has a protruding fissured tongue and her hands are lined in the manner typical of some mongolian idiots. Her I. Q. is 41 by the Stanford-Binet scale.

T. S., R's twin sister, is an attractive girl. Although she has never been tested, she is apparently normal. She was graduated from high school when she was 18, and had never failed a grade in school. She discontinued her formal education to be married, else she might have attended college. She is the mother of a baby, which is apparently normal.

Family history. The father of these twins is a business man. He is prominent in community politics and highly respected. The mother is an attractive middle-aged woman of good intelligence. There is no history of any mental deficiency on either side of the family. There are no other children, nor have there been any pregnancies either before or after the birth of the twins. They were born when the mother was 36.

Case 2. W. B., a boy, was born January 18, 1927, following a normal full-term pregnancy. He never attended public school. In June, 1936, he was given the Kuhlmann-Anderson test. At this time his chronological age was 9-5, his mental age 3-5, and his I. Q. 36.

This boy is undersized and has most of the characteristics of the mongolian idiot. He has slanting, widespread eyes, short stubby fingers and fissued tongue. In appearance he is typically mongolian.

R. B., twin brother of the patient was tested on the same day. His mental age was 9-0 and his I. Q. 96 by the Kuhlmann-Anderson scale. He is in the fourth grade in school and is doing normal work.

The B. family is economically independent, but not wealthy. Mrs. B. is in business, is well adjusted and intellectually normal.

The twins were born when Mrs. B. was 23 and there were no pregnancies either before or after that time.

There is a history of mental deficiency on the mother's side of the family. A first cousin is a mongolian idiot and the maternal grandmother of the twins has

been reported by the state psychologist as being feeble-minded.

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THE ORGANIZATION OF THE MEDICAL SERVICE OF THE ARMY IN WAR

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CHICAGO

It is a real pleasure to appear before such a representative group of medical men as is assembled here tonight, to talk about the medical service of the Army, and to tell you some of the changes that have been made since you participated in active service during the World War. At the same time, I wish to take advantage of the opportunity to do a little missionary work; to remind you that even though you did not remain in the Reserve Corps, and even though some of you may be past the age when you may expect to do active duty in the event of another war—and some of us are getting near that age—still, I think that as members of the greatest profession on earth and as citizens of the greatest country on earth, each of you have a duty to perform in connection with the medical service of the Army. But more about this later.

The Army of today is organized somewhat differently from what it was at the beginning of the World War. Then it was small, living largely unto itself and having but little real contact with the civilian world. We had no definite and comprehensive military plan or policy; our organization, at least as far as the larger units were concerned, was more a conception than a reality. We talked of an infantry division, but when one of our greatest generals was asked what such an organization looked like, his answer was that he had never seen one. But in 1916 Congress approved a National Defense Act, and this has since been amended to embody the lessons of the World War. This act provides for a skeleton peace-time establishment, consisting of three components—the Regular Army, the National Guard and the Organized Reserves—and for the rapid mobilization of the nation's military forces in war. It provides for the necessary field armies, corps, divisions and other units considered necessary for the defense of this country in the event of war. In brief, we now have a comprehensive, a sound military policy.

My subject is a large one, and so I am going to say but little about the organization of the medical service in the Zone of the Interior, meaning by this term the United States or that part of it which will lie outside of the area of active military operations, the latter being referred to as the Theater of Operations. In the event of war, the office of the Surgeon General and the offices of the various Corps Area Surgeons—there being nine in the United States—will have to expand materially to take care of the task of mobilizing the forces needed. There will be required in the Zone of the Interior a large number of hospitals to take care of the sick and injured of the forces being mobilized. These will, for the most part, be the smaller, or what we call Station Hospitals, and will be located at points convenient to the mobilization points and centers. In addition, there will be needed a number of larger hospitals, termed General Hospitals, to care for the casualties sent back from the Theater of Operations.

Each field army—this to give you a little of the background of our army organization—consists of three army corps and two cavalry divisions, of certain so-called special troops, army artillery, army aviation and army signal, ordnance, engineer, medical and quartermaster units. Each army corps consists of three infantry divisions— the corps artillery and aviation, certain special troops, and corps engineer, medical and quartermaster units. The infantry division consists of two brigades of infantry, a brigade of

Address before the Veterans' Service Committee Dinner, Eighty-seventh Annual Meeting of the Illinois State Medical Society, Peoria, May 18, 1937.

field artillery, certain special troops, and engineer, medical and quartermaster units. Each infantry brigade has two regiments of infantry; the field artillery brigade has three regiments—two light and one medium caliber artillery.

Every regiment and similar unit has attached to it a detachment, consisting of officers and enlisted men of the Medical Department, to look after the personnel of that regiment or similar unit. Each division has its medical unit, known as a Medical Regiment, to take over and care for the sick and wounded gathered together by the medical detachments of the regiments and similar units. The army corps, being purely a tactical and not an administrative organization, also has a medical regiment, the primary duty of which is to care for the sick and injured of the Corps troops, or, in other words, the units of the corps other than the infantry divisions. The field army is provided with the medical units necessary to take over and care for the sick and wounded from the corps and infantry division establishments.

In attempting to visualize the organization and functioning of the medical service, let us start at the front line with an infantry regiment, the Medical Department of which consists of eleven officers (eight medical, two dental and one veterinary) and eighty-four enlisted men. This detachment is an integral part of the infantry regiment, and is responsible for rendering medical service to it. The detachment is divided into a headquarters section and three battalion sections. Each battalion section sends forward with each infantry company two aid men whose function is to render first aid. A second part of the battalion section is composed of litter bearers, who bring those wounded who are unable to walk back from the front to the battalion aid station, which is established by the third part of the battalion medical section. The headquarters section of the regimental medical detachment has the equipment necessary to establish a regimental aid station, but the function of this section is to supervise and, when necessary, reinforce the battalion aid stations and to care for the casualties in the personnel of regimental headquarters. Here there is a difference from the scheme usually followed in the World War. Then, casualties were moved from the battalion aid stations to the regimental aid station, and there taken over by the division medical service. Today, the regimental aid station is eliminated as a link in the chain of evacuation, and casualties are taken over by the division medical service directly from battalion aid stations. The medical service of artillery and engineer regiments and other similar units operates somewhat along the same lines as that of an infantry regiment, except that here it is not necessary to subdivide battalion medical sections into company aid, litter bearer and aid station squads.

From the aid stations, casualties are taken over by the division medical service, which operates much the same as in the World War, except that it was then designated as the Sanitary Train, and is now organized into and operates as the Medical Regiment. This regiment is commanded by the division surgeon and consists of a regimental headquarters, a service company, a veterinary company, a collecting battalion, an ambulance battalion and a hospital battalion. Each battalion consists of three companies. Of the companies of the ambulance battalion, one is animal drawn and two are motor driven. The service company is charged with the supply of the regiment with food, clothing, etc., and also with the furnishing of medical supplies to all medical units of the division as well as the supply of such items as adhesive plaster, first aid packets and foot powder to the troops. The veterinary company furnishes the same service for the animals as the ambulance, collecting and hospital battalions furnish for the men. Together with the division surgeon's office, which is attached, the medical regiment has a strength of 69 officers and 892 men. The total Medical Department personnel of the infantry division numbers 152 officers, of whom 101 are medical officers and 1,407 enlisted men.

Let us now look briefly at the operation of this medical regiment in combat. The collecting company (usually one per infantry brigade) moves forward and establishes a collecting station in a selected locality about a mile or a mile and a half behind the front lines. From here litter-bearer squads of the company move forward to the battalion aid stations and bring back to the collecting station the casualties who are unable to walk. At this station those casualties who need no further treatment are sent back to the front; while other casualties are given such treatment as is necessary to fit them to withstand movement to the hospital station. From the collecting stations, ambulances from the ambulance companies

transport the casualties to the hospital station, which is established by the hospital companies. At the hospital station, which will usually be between four and seven miles behind the front lines, the casualties are sorted; those who can return to the front after but minor treatments are given such; those who are in need of hospitalization are given such treatment and care as will enable them to be moved further to the rear. Those, whose condition is such that they are unable to withstand transportation, are moved by litter to what is known as the surgical hospital, to which later reference will be made. The hospital station is the last link in the chain of evacuation which is operated by the medical service of the division; from this station the casualties are taken over by the army medical service.

It may be of interest if I digress for a moment to say something about the organization of the proposed new infantry division, of which you, no doubt have seen mention in the newspapers, and concerning which I have been asked some questions. It has been argued that our present infantry division, which numbers approximately 22,000 officers and men, and occupies a road space of about 37 miles, is too large and cumbersome to be as mobile as is demanded by the needs of present day warfare. The new division is the answer to the demand for greater mobility and greater fire power. The proposed infantry division will drop the brigade organization, and will consist of three infantry regiments and one field artillery regiment; the service troops being reduced in proportion to the reduction in the numbers of combat troops. In line with the reduction in the number of service troops, a medical battalion will be substituted for the present regiment. This medical battalion will consist of the headquarters and headquarters company which will carry on the necessary administrative and supply functions, three collecting companies and one clearing company. The collecting company will, in effect, be a combination of the present ambulance and collecting company, and its function will be the transfer of casualties from the battalion aid stations to collecting stations by litter and then to the hospital station by ambulance, and their medical care en route. The clearing company will have practically the same duties as the present hospital company. I have no official information as to why the name "hospital company" was changed to "clearing company." However, I suspect that it was to more clearly express the function of this company. The name "hospital" makes one think of an institution where the patient is hospitalized for definitive treatment, and such is not the function of the division hospital station. The function of this station is to sort, treat, and otherwise prepare the patients for return to their units or for evacuation to rear establishments. Hence, its function is one of "clearing" rather than "hospitalizing." In general, it appears that the new medical battalion will function in about the same way as the present medical regiment operates. This summer, an infantry division organized according to the new plan, is to be assembled for maneuvers, and during these, we will doubtless learn the good and bad points about it.

So much for the division medical service; let us now look briefly at the corps medical service. The corps medical service does not form a link in the chain of evacuation from the divisions to the rear. As already mentioned, each corps has a medical regiment, whose primary duty is the care of the sick and wounded among the corps troops. Secondarily, it is a reserve from which division medical regiments may be reinforced. The corps surgeon is the technical adviser to the corps commander, and in this capacity is responsible not only for the execution of the medical service provided for the corps troops, but also for the supervision of the medical service of the divisions constituting the corps.

The medical service of the army is responsible for the taking over of the sick and injured from the division and corps hospital stations. The army medical service is headed by an army surgeon, who is charged with the carrying out in the army area of the various duties with which the Medical Department is charged, except such as may be carried out by units exempted from the control of the army commander. To assist in the functions of his office, the army surgeon is supplied with a staff of assistants, who with him constitute the army medical headquarters, and certain medical units, to which I will now refer.

First, there are four medical regiments, each of which is identical in strength and organization to the division or corps medical regiment. The functions of these medical regiments is to furnish medical care to the army troops (i. e.,

those units belonging to the army but not assigned to divisions or corps), to furnish such reinforcements as the division and corps medical services may need in emergency, and to evacuate hospital stations of the divisions and corps to the army evacuation and convalescent hospitals. For this latter purpose, the ambulance battalions of the army medical regiments are used.

The evacuation hospital, of which there are twelve in each field army, has a normal capacity of 750 beds, but may be expanded to 1,200 beds in emergency. It receives patients from the hospital stations of division and corps, and also from surgical hospitals, of which mention will be made later. The evacuation hospitals constitute the bottle neck through which all casualties must pass on their way from the combat zone to the hospitals of the communications zone. These evacuation hospitals are classed as mobile, but they must be moved by rail or by army motor transportation. They are normally established from ten to fifteen miles or more from the battle front on railroads leading to the rear and along good roads leading to the front.

The surgical hospital, of which there are ten in each field army, is designed for the initial care of those cases whose condition is so serious as to make it inadvisable to immediately move them from a hospital station to an evacuation hospital. In order that they may carry out their function, surgical hospitals are established near the division hospital stations, so that patients may be transported from the latter to the former by litter bearers or by a minimum distance ambulance trip. They are army units and operate under the army surgeon but are located in the division areas. It must be remembered that the division hospital stations must be prepared to move forward as the division advances, if they are to most effectively function. In order to accomplish this, the army must evacuate them promptly of cases which can be moved, and a surgical hospital must be convenient, so that non-transportable cases can be transferred to it.

The army medical service also has a convalescent hospital, with a capacity of 3,000 cases, which is designed to care for patients whose incapacity will last for a few days or a couple of weeks, convalescent cases from evacuation hospitals, and venereal cases within the army area which require hospitalization.

The army medical service also has three veterinary evacuation hospitals, one veterinary convalescent hospital, a medical laboratory, a medical supply depot, and an aviation medical examining unit. The names of these will give you an idea of their respective functions.

The cavalry divisions belonging to the army have an organization which parallels the medical service of the infantry divisions, except that they each have a medical squadron instead of a medical regiment.

Thus, it can be seen that each army is furnished with its own medical service, equipped to care for its own sick and wounded who will be able to return to the front within a reasonable time, and to do what is necessary to make those requiring longer and definitive hospitalization ready to withstand further transportation to the rear. To give you an idea of the total Medical Department commissioned force of one field army, there will be approximately 1,300 officers in the nine infantry divisions, over one hundred in the two cavalry divisions, about 450 in the three corps medical services, and approximately 1,100 in the army medical service; a total of approximately 3,000, of which, in round numbers, 2,100 will be medical officers.

Behind the field armies will be the Communications Zone, and behind it, the Zone of the Interior, to which reference has already been made. The Communications Zone will have its medical headquarters, general hospitals, station hospitals, hospital centers, hospital trains, medical laboratories, dispensaries, medical supply depots, and also veterinary general and station hospitals.

The general hospital, a fixed unit of one thousand beds, is designed for the definitive treatment of all cases arising in the theater of operations. Its equipment is adequate for all cases of whatever severity. The number of these hospitals in the Communications Zone will depend upon the location of the zone with respect to the Zone of the Interior, the number of troops involved, and other similar factors. Cases will be moved from the evacuation hospitals to general hospitals by means of hospital trains, each of which has a capacity of three hundred recumbent patients.

For economy in operation as concerns both personnel and material, and to facilitate administration and supply, three or more general hospitals will be grouped into a hospital center whenever practicable. Each hospital will function as a separate unit under its own commander, but they all operate under the center commander. This system is like that which prevailed in the World War.

The station hospital is a fixed hospital of two hundred and fifty bed capacity, and such hospitals will be placed at places in the communications zone where there is a sufficient concentration of military personnel to warrant such an establishment. There are intended to care for the hospitalization of local patients, but as they do not have as extensive facilities as a general hospital, it may be necessary at times to send cases from the station to general hospitals. These station hospitals receive cases only from the area or command which they serve, and are not intended for the care of patients from the combat zone.

The other units mentioned as belonging to the zone of communications need no special mention; their titles are indicative of the function which they will perform.

This brief description of the medical service of the army in war will give you some idea of the immensity of the organization, and the numbers of the personnel that will be required to operate it. At the beginning of the World War, there were a little over four hundred medical officers in the Regular Army, and that number was expanded until we had over 30,000 at the end of the war. Is it any wonder that we at times hear complaints that some officer got a promotion while some equally deserving officer did not, or that somewhere some patient did not get all the care and attention he thought his due? But at the beginning of the war, we had no definite plan; we were not prepared because we did not even know what would be needed.

Today, the situation is different. We have a comprehensive plan; we know what troops are to be mobilized and what medical units will be required to care for them. The Regular Army, the National Guard, and the Organized Reserves are carrying on. Many of the medical units which will be required are already organized as far as the commissioned personnel is concerned; this personnel consisting of officers commissioned in the various branches of the Medical Department Reserve. Many of these officers are fitting themselves for the duty which they will be called upon to perform in the event of war, by pursuing correspondence courses, and by attending meetings of their units for purposes of instruction.

To my mind, this training is vital. I cannot agree with those who say that as far as medical officers are concerned, all that we need is good doctors. It is true that we do need well qualified professional men, but in the army the work of the medical officer is not limited to the practice of medicine as you know it in civil life. In combat, there is the problem of getting the wounded man back from the front to the rear, this without interfering with the movement of troops, ammunition and supplies from rear to front. There is also the problem of feeding, clothing and otherwise caring for and administering the enlisted men of the Medical Department, the housing, feeding and supplying the patients, the problem of sanitation, medical supply, etc. Moreover, if the medical officer attached to a front line unit is to be as efficient as we would like, he must know something about military tactics. He must be able to appreciate the military maneuver that his commander plans to make, in order to be able to so dispose his medical forces that they can efficiently perform their functions. He must know something of the problems of the other services, quartermaster, enginer, etc., so that the plans he makes for the medical service will not interfere with the plans made for the operation of other services. In other words, the medical officer must be able to work as a part of a team, and in order to do this, he needs training.

The medical units which, according to present plans, are to be manned by doctors from the State of Illinois in the event of war—some of these are already organized—, call for some 1,800 medical reserve officers. If a general mobilization ever does occur, it is probable that this number will be doubled. But, of the 1,800 medical reserve officers needed to complete the units which are now or should now be organized, we have but a little over eight hundred, and some of these are not actively carrying on their training. Gentlemen, I think that this is a situation

which everyone of you here tonight can help to correct.

First of all, you can impress upon the young doctor with whom you come in contact, the patriotic duty of joining the reserve corps. Then urge him, and also urge that man who has accepted a commission in the reserve but who is not keeping up with his training, to get busy with the prescribed correspondence courses and to attend the meetings of the unit to which he is assigned. All that is required of a reserve officer to maintain his eligibility for assignment and active duty is to devote twenty-five hours a year to his army work. We in the Regular Army can not make personal contact with all of these men; moreover, in many cases, you who know them intimately and have had experience in the World War, will have a greater influence.

If another war does come—and this God forbid—, it is not likely that we will have a condition similar to that existing in 1917, where allies held off the enemy until we got ready. We must have young doctors, and have them now, so that they may learn how to carry on the tasks that will be their lot in war. If we get the required number of young doctors now, and give them the needed training, then we will be able to carry on from the start that vastly important task of efficiently caring for the sick and wounded of the fighting forces, and of promptly converting casualties into replacements and thus keeping up the combat strength. And it must ever be remembered that a highly efficient medical service has an effect more far reaching than the satisfying of humanitarian needs; it makes for the maintenance of a high morale on the part of the troops and of the civil population, for nothing is more destructive of this morale than is a failure to adequately care for the sick and wounded. If we don't get and train these young doctors now, we may not be ready when the need arises.

So, Gentlemen, even though you are past the age when you can expect to do active duty in the event of another war, or for one reason or another are not in the reserve corps today, I feel that you have a patriotic duty as veterans of the last war, a civic duty as citizens of a great State, to do what you can to encourage young doctors to affiliate with the reserve corps; and, after receiving their commissions, to carry on their training. Today, the State of Illinois has about forty per cent of its quota of doctors in the reserve corps. Personally, I would like to see this State, with which I am at present associated, put over the job and do far better than its forty per cent. I will do my part, and am confident that with your help, we can accomplish the goal. I solicit your hearty cooperation.

907 Chicago Post Office Building.

THE MEDICAL COMMISSION AND ORGANIZED MEDICINE

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I wonder if there is not some misunderstanding between the men of the State Medical Association and the men of the Medical Commission of the American Legion insofar as veteran facilities are concerned and in which the Medical Commission plays some small part. I know that I have felt this way and I am sure that other doctors have, too, and I believe for the good of all concerned that the situation should be discussed to bring about a clearer conception of the whole thing. In our veteran facilities, we find two groups of men and women receiving treatment. On the one hand, we have the service connected cases, those in which the veteran can trace his disability directly to service. On the other hand, we have others under treatment, who, it is true, are not what we term "service connected" cases. They are, unfortunately, indigent veterans who, because they have no financial means to undergo treatment elsewhere, are necessarily entitled to government aid because of that predicament. They must, however, sign a paper in which they swear they have no visible means of paying for hospitalization and medical care in their own community. I know that some of you will sit back and say, "I know men who have gotten in and are able to pay." That may be so, but unless we, of the medical Commission or Colonel Scott at Hines, have evidence of such a fact we have no means of checking up. If you know of any one in your community who goes to a veterans' facility who is able to pay for such care, send a letter to Colonel Scott or to the

Address before the Veterans' Service Committee Dinner, Eighty-seventh Annual Meeting of the Illinois State Medical Society, Peoria, May 18, 1937.

facility where that patient goes and they will check up on the case. If they find the man is able to pay they will refer him back to his own physician. You will find, as you do in your county hospitals, that there are always a few who will slip in and get aid even though they are able to pay. In defense of both these parties, I want to say that the facilities are anxious to leave these cases back in the home town. To the doctors of the State Medical Society and the Medical Commission belong some part in the solving of that problem. We all have to work together and we have need of still greater cooperation. The doctors were indispensable in the war days, and of course they are indispensable now. Some men who were in the Army are now back in civilian life without any ill effects of the war; others had to enter hospitals. It is for this latter group that we have facilities at the present time.

The Medical Society can, with the Medical Commission, watch the facilities; watch the state and national governments in putting up these facilities and guard against an unnecessarily extravagant building program. Building programs are many times formulated for additionl beds in certain hospitals where the need is not so great as perhaps in that of another facility where the waiting list shows conclusively that additional beds are desperately needed.

The disability of the veterans is one of the major problems confronting us today. The disability varies because the penalties of war varied. No veteran came out of the war without having paid a penalty, either in a small or great degree, from having subjected himself to the mental and physical exactions of army discipline. The years taken from the calendar since those days have increased the problems with the adding of the years. As a result, we find our medical problems with the veteran greater in number and greater in intensity—despite the fact we are losing a goodly number each day by death. We must study these problems if we would administer a definite service to the veteran because such service can only come through an understanding of the veteran's problem.

In the bulletin that I sent out some time ago to the men in the Medical Commission, I said that the problem of the Post Surgeon is that of a liaison officer between the Medical Society and the American Legion, and it need be no problem. That man should cooperate with the American Legion Post of which he is a member and with his state and county societies. It should be his desire to have a "medical night" meeting each year, or may be two or three in the year, at which all the doctors who belong to that post could get together at a dinner and discuss their problems, the veterans' problems, and also the facilities, and formulate some plans which may be brought before the Medical Commission, and in turn to the State Convention. Not only may you bring your problems and suggestions to the Legion State Convention, but you may bring them up before the State Medical Society where you have a very efficient Veterans' Service Commission. Let them figure it out there and then bring it before the Legion State Convention. In that way the doctor becomes familiar with the men in the Legion, and their program and that is one way he can really understand the veterans' problems. That is one way in which we can help the veterans.

There is only one way in which to study the program and to seek a solution to the mistakes as you see them existing at the present time, and that way is to join up with the American Legion or other service group and enter into the activities of that Post. I was talking to a well-known man in Rockford yesterday noon and he was looking at the pin I had on—I belong to the Forty and Eight—and he said, "You know, Norm, that is a mighty fine pin—you belong to the Forty and Eight. I have always belonged to the Legion, though I have never been active and yet I wouldn't give up my membership for anything. I could sever my connections with civic organizations but my Legion membership, I'll always adhere to." I said, "That is a fine thing, Doctor, but why do you not become active? I do not mean that you must work on committees. If you only go to the meetings, you would lend moral support to the Post's officers, which amount of good could never be estimated. There are plenty of things in which you can be of great help, not only in a social way to the men of the Post but in helping them in a medical sense—by helping, with your suggestions, to solve the veteran's problem which is paramount in the American Legion." There are plenty of men in the Post who do not have the true sense of

civic pride in the community because their daily activities do not provide for it. They seem satisfied with their job, to go home, get a good meal and go to bed. In short, the other fellow's business is none of their concern. But the doctor, coming as he does, in contact with various people in the day—learning their problems—is able to render a valuable service to any organization by giving them the benefit of his observations.

I do not mean this as a membership plea for the American Legion entirely. There are those of you who are eligible to other veteran organizations and who do belong to them. It is to you all that I make this plea. Get into those organizations that study the veteran's problems. Your experience, your wisdom, your advice is needed to solve them! Only with your cooperation can the ultimate goal be reached! Only with your cooperation can there be any kind of harmony between the veteran groups and the State Medical Society!

Rockford National Bank Building.

THE AMERICAN LEGION'S CONTRIBUTION TO THE BOY'S STATE AND BIG BROTHER MOVEMENT

LEONARD APPLEQUIST
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I want to cover very briefly what is one of our important Americanism measures. But before I go into the subject I want to take the opportunity of extending to you the Department Commander's greetings and best wishes for a successful convention. We hear a great deal about the effect of communism upon the youth of America today, and we are ready to believe it because of a thorough investigation on the part of our Department of Americanism. We know there are many false ideas placed in the minds of the youth, and we know the attitude youth has taken toward our government today. This was brought to our attention in one community and it disturbed us very much as to what was taking place among the girls and boys. The Post-Commander was asked to address them on the Government of the United States. After he had completed his talk covering the early inception of the country, the Declaration of Independence in 1776, the war of 1812 and through the various stages of evolution of this great nation until we had developed it from the Atlantic to the Pacific, he sat down and one of the young ladies arose and asked a question. She said, "for the past two years while attending a certain college, along with many others, we heard a great deal about Americanism, communism and socialism, and we have been asked to study something about these other forms of government and compare them with the government of the United States. We have come to this conclusion, we do not care whether it is Nazism, Fascism, communism or what it is, we believe we should have a change, that we should wipe out the burden we are now under and set up a new government. When we do that we will do the same as in Russia; they were burdened with debt, were under the control of the Czar, so when they had a revolution they destroyed the government and immediately canceled all obligations that government had to the world, and started anew. Therefore, we do not think we should bear the burden of our forefathers. We are willing that we should have a new form of government and cancel all past obligations."

What are they doing? Here is just a little information that I took from the report of Harry S. Low. He has made a study of communism, and knows whereof he speaks. He says, "We find that there are such papers now available as the 'Young Worker,' the official organ for the Young Communist's League, being published in San Francisco. Another one is published at 2 E. 23rd Street, Room 508, New York City. We find the 'New Pioneer,' a magazine published for boys and girls on Fourth Avenue, Brooklyn." It came to the attention of the Americanism Department that there are being established camps to teach the youth of the country the principles of communistic government. The communists know they are not going to change your opinion or that of many others, but they know the youth can be more or less influenced. When they take a boy or girl of fourteen and fit them into that sort of propaganda, when that youth reaches twenty-one they will not worry about revolution because they will be steeped

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with that form of propaganda. The youth will be ready to work with the communists.

The suggestion was made to us by a Legionnaire teaching in high school. He said, "why not concentrate the youth in the central part of our state and give them an opportunity to operate the state, county and city governments and learn something about the duties of citizenship. So there was set up a Boy's State at Springfield in 1935. This year we will have nine and in 1938 we expect to have 13 to 16. Then we are going to create a boy's nation and let the youth learn something about the national government. What happened in Ohio last year? At the end of the boy's state in Ohio two youths came up and said, "We come to you, Mr. Legionnaire, to apologize. We came here paid by the communists for the purpose of creating disturbance, After we had been here two days in association with your officers and got an idea of what this government was really all about, we learned that it was not so much the fault of our government, but the confidence we and our forbears had placed in those sworn to administer the various departments of the government had been misplaced. We are going back to employ ourselves for the preservation of the kind of government we have."

In 1935, 250 boys went to Springfield, sponsored by the Legion, the Forty and Eight, the knights of Columbus, the Elks, and other civic and patriotic organizations. Just to give you an idea of how much value this trip is, I am going to tell you a story. One lad who had written an essay on Americanism came from the southern part of the state. His father had taken out his first citizenship papers. This lad won the five dollar prize. He was asked, "What are you going to do with that five dollars?" He said, "During the time I was preparing this essay I talked with my father. He works in a coal mine and the mines have not been very busy. My father feels as though he wants to be a citizen and I am going to give him this five dollars to take out his second papers."

That is where we make a mistake when we do not encourage these people, have meetings, inspire them, teach them that they are a part of this great country. That is our job as Legionnaires. This little Italian boy was going to take his five dollar prize and purchase his father's second citizenship papers. When he heard about the Boy's State he wanted to go. Our Legion Post said, "Yes, we want to send him." He went to the Boy's State. As part of the program they go to the State House, the Senate Chamber, the House of Representatives, the Supreme Court, and lastly they go to the tomb of the immortal Lincoln. On the day before they were to go to Lincoln's tomb the officer in charge said, "Tomorrow we are going to the tomb of Lincoln, the man of sorrows, who spent most of his life in Illinois and belongs to us; the man we have studied all about. We have learned a lot about America since we have been here the last six days, and Lincoln has had a great deal to do with making America what it is today. Tomorrow we are going to his tomb." The next day they went to Lincoln's tomb, and as these 250 lads turned their faces east where lie the mortal remains of the father of his country, that inspired and illustrious George Washington, the leader of this country in the early days, the custodian of the tomb who had been there for many years, came out with tears in his eyes. He said, "I have seen men in all walks of life enter that tomb and I have never seen so inspiring a sight as I stood there when those 250 boys stood before the sarcophagus and individually saluted the immortal Lincoln."

These boys go there for the small sum of ten dollars and remain seven days. This year we will have room for 1,000. They are sent there because of their leadership, courage and honesty. That is the type of boy that we want to come to Boy's State this year, because he will go back having the courage of his convictions. He will be honest about what he learns down there, and being a leader he is going to inspire all the boys with whom he comes in contact. If we keep up this work we will not worry about Nazism, Fascism or communism getting a hold in this country. Let everyone of us get behind this boy's State. When these boys come back inspired from what they have learned, invite them into your medical meetings and let them talk as they have been inspired.

I appreciate the opportunity of having come before you and having spoken to you.

Elks Club.

SEX CRIMES

JOHN KERCHER, M. D.
CHICAGO

Up to the time of the World War we practically lived in an era of happy tranquillity—every boy was ambitious to find the girl—to establish a home and to raise a family. The girl's ambition was to work for some good family, to learn to cook, wash, sew, knit, to be a good housekeeper, to save some money until she found that Man. They were perfectly happy to be supported, guided, and protected by Man.

Then the War came. On account of the industrial shortage of manpower, everything changed from the former order.

We found ourselves short of domestics, cooks, housekeepers and we found women in men's trousers, climbing high ladders, cleaning and fixing electric street lamps, wearing men's rubber boots and rubber coats and aprons, washing cars, working in ammunition factories, and woman no longer needed the support and protection of man. They were free; making men's wages. No wonder they got drunk with the victory of independence. They could rent their own homes, go when and where they pleased. And while the women won this great victory of independence, hundreds of thousands of men lost their lives, thousands crippled, more thousands shell-shocked. We had thousands of widows and many thousands of orphans, besides the billions of dollars lost, contributed by the American people.

That War was *Man's Mistake*. It will go down in history for future generations as America's greatest blunder.

But now came another mistake, it will be marked a woman's victory by future generations. I refer to the inauguration of prohibition. A law that was passed while several million of our men were in France and other countries fighting to make the world safe for democracy. The Women's Christian Temperance Union in cooperation with the Protestant Federation of Churches, with the Antisaloon League, forming the Prohibition Party, utilized with great success the psychic value of the feminine emotionalism, heightened by the war hysteria. The women's confidence and cooperation was obtained by the ministers' plea that crime would be abolished, no more jails, police, no more drunken husbands or brothers. Future generations will refer to it as blunder number two.

The entire world is now going crazy. This is nine-tenths true in the United States in the post-war period. Negroes who used to work in the cotton fields in the South, now invaded the best residential district on the south side, in apartments with mahogany and marble trimmings, furnishing them with expensive rugs, pianos, brass beds, victrolas at $150.00.

And now came 1929. Since then it has been estimated that 5,000,000 women have taken men's jobs, displacing 5,000,000 men, who it should be noted would, following nature's urge, have found a home with a loving wife and children if he had had a job and an earning power.

In the meantime the large majority of women having discovered that they were duped with the prohibition movement, now had to find some other avenue of placement for their heightened emotionalism, and so they regimented themselves into making the world a better place to live in, especially so the U. S. A., by improving our morals. So by concerted action of women's clubs, churches, ministers and political workings, the red light district and prostitution were wiped out, but largely because of the lack of financial support on account of the depression. As one prostitute remarked: "A decent respectable sporting girl couldn't make a living because the boys didn't have the dough."

It should be emphasized that the good moralists have overlooked one very important fact and that is that the sexual impulse is one of nature's functions, as natural as sleep, food and other nature's calls, except that it is the most powerful impulse in all human and animal creation. Sexual intercourse is the oldest institution in the world.

One of Europe's foremost monarchs abdicated as king and emperor of a vast empire for a woman, and what makes the woman? Her sexual anatomy. Another king renounced his throne for a woman and left the country. After some time he came back, but according to newspaper reports the alliance still exists. Trace back history even into the time of Cleopatra, or in old biblical history Potiphar and his daughters. We are no different today. The sexual urge is the motive of many murders. A woman kills another woman fighting for her man. A man kills another man who is trying to chisel in. A big buck deer fights

unto death for his harem. The same with all wild animals. Is it surprising then with still millions of men without jobs, without money, many without homes or mates, many without the ability to work off the surplus energy, the enforced idleness, and the sexual urge ungratified, many with animosity toward women in general for having taken their jobs, that we have now an unusual number of sex crimes or rape?

Now it should also be noted that a man can rape a woman, but a woman cannot rape a man. I am confident from my many years of experience as a physician that if a woman could commit a rape on a man, we would also have women rapists. Just recently I had occasion to visit a family where the man was 81 years of age, and his wife about 75 or 76, both very intelligent. When speaking on this subject I stated that women and girls often suffer from "nerves" and headaches from sexual excitation, when to my surprise the old lady remarked: "Yes, doctor, and even more than men because they cannot go out and find relief."

I herewith recite some sexual histories of women and girls: A—, Young woman 33 to 35, was one of the most beautiful shaped women I have ever seen, but her face—the less said the better. Canadian-French; married, but unhappy on account of her excessive sexual irritation. She was very jealous. Was finally divorced and came to Chicago. Confessed she often thought of killing her husband and committing suicide. Also confessed that she attempted to use a banana when one of those sexual storms was on.

B—, Married, husband a professional confidence man and card shark. Three men formed group, each staying in different hotels to pick up suckers. They posed as stock and bond brokers. They would meet for a friendly game with their victims, often trailed them on railroads and even ocean steamers. One time was caught in Canada and sent to prison for four years. The wife became a prolific masturbator. This history was obtained in a consultation concerning her health. I delivered a rather forceful lecture to her and told her she was a fool. I told her to go out and get a man to satisfy nature's calling. She then informed me of a druggist near by who had tried to make a date with her, and I said, "Well, go ahead—there is your opportunity." Several days later she came to my office in a very depressed, or rather disappointed state of mind, and said that it was the greatest disappointment she had ever experienced. It was a flop. What happened she refused to state. I then lost track of her. But about three years later I received reliable information that B had committed suicide with a big dose of morphine.

C—, Two old maids, sisters, one about 43—looked 53, domineering, puritanical. The younger sister, 35; she was always reprimanded for putting some powder on her face, and "Horrors!" sometimes even tinting her cheeks. They were well educated, both music teachers. They had never been parted in their lives. Finally the younger one broke away and lived in a small furnished room. I had discovered that she liked a married man. Soon after she kept company with another married man. Then she had several married men. The eldest sister was a neurotic, complained of everything in the medical dictionary. Eventually she moved away. Less than two years after she returned for thorough examination, including a vaginal examination for an imaginary cancer. To my great surprise I found a complete "hymen"—maidenhead. Here was a woman near 50 years of age who had never had sexual experience, but she had masturbated since she was a girl. She informed me her sister had died. Of what? Less than a year after this she jumped out of a 3rd story window committing suicide.

These are only a few examples of my 47 years experience; May, 1890, to May, 1937.

When a woman is thus afflicted, it is usually referred to as a case of nymphomania, and she usually receives great sympathy for her affliction. When a man is thus afflicted, he is a fiend, a monster. It should also be noted that man from the time of the stone age has been the aggressor, the fighter. He fought with the tiger, the leopard, the bear and other ferocious animals. He fought other men to protect his wife, his children and his home, while his wife just looked after the home. Therefore, the difference of the aggressive fighting man and the passive nature of the woman. We could hardly expect a sexual erotic woman to break into a man's bedroom and blackjack the man or to use a brick and commit murder.

I stated before that the entire world was going crazy and according to "Damran, *Medical Record,* Sept. 2, 1936," that the number of patients in hospitals for Mental Diseases in the United States has increased from 63.7 per 100,000 population in 1880 to 263.6 in 1934.

6850 Dorchester Avenue.

Anti-syphilitic effect of bismuth is directly proportional to blood and tissue concentrations of this substance, therefore preparations of bismuth which are soluble in the tissues and fluids of the body should be used. Hanzlik, P. J., *J. A. M. A.,* 107:1985, 1936.

The true University of these days is a collection of books, and all Education is to teach us how to read.—*Carlyle.*

Society Proceedings

COOK COUNTY

JOINT MEETING OF THE CHICAGO MEDICAL SOCIETY AND THE CHICAGO GYNECOLOGICAL SOCIETY

Wednesday, January 19, 1938

PROGRAM

The Sex Hormones: Their Physiological Significance and Use in Practice—Dr. Robert T. Frank, New York, N. Y.

Discussion: Julius Lackner, James H. Hutton, M. Edward Davis, Williard O. Thompson.

CHICAGO MEDICAL SOCIETY

Wednesday, January 26, 1938

PROGRAM

Cancer of the Colon and Rectum—Dr. Fred W. Rankin, Lexington, Ky.

Discussion: Karl A. Meyer, Carl B. Davis, Alfred A. Strauss.

JEFFERSON-HAMILTON SOCIETY

Five veteran doctors who have practiced medicine for more than half a century were appropriately honored in a dinner given for them by the Jefferson-Hamilton Medical Society at Hotel Emmerson, January 25. Dr. C. M. Dixon, head of the organization, presided.

The five, who were welcomed into the Fifty Year Club and presented with lapel buttons designed by the Illinois State Medical Society, were Dr. W. K. Parker of Dix, Dr. W. W. Hall of McLeansboro, Drs. W. R. Ross, Hugh Peavler and F. W. Patton, all of Mt. Vernon.

Dr. Andy Hall, who is chairman of the Fifty Year Club organization, delivered the presentation address and each of the five club members responded with appropriate addresses—relating many interesting incidents connected with the practice of medicine 50 years ago.

Interesting facts brought out in medical science in the past 50 years in the address of Dr. Hall included: The average life of man today is 60 years, the average life of woman 64 years. Fifty years ago, average life was about 41 years.

Fifty years ago the average cases of typhoid in Illinois for a year were 20,000 and it was fatal to an average of 2,000 persons. At the present time there are usually about 3,000 cases of typhoid in this state and approximately 300 persons die from the disease.

Fifty years ago aproximately 3,600 children died in Illinois from diphtheria each year, while now only about 400 succumb to this disease.

The infant mortality was then about 100 for every 1,000 birth, while it is now about 40 for 1,000 births.

Short talks were alsó made last night by most of the physicians present, as well as Rev. Cyrus Maulding, who was a guest of the society.

The inclement weather and dangerous condition of the roads prevented many attending who otherwise would have been present.

Facts were brought out concerning the experience of physicians who have practiced in this state for 50 years or more.

When these physicians started to practice they could not obtain diphtheria antitoxin, rabies serum, serum to prevent tetanus or lockjaw, typhoid inoculation, insulin, toxin antitoxin, meningitis serum and many other things which today are simply taken for granted.

The Illinois State Medical Society decided to honor these pioneers of health by making them members of the Fifty Year Club.

Marriages

RICHARD CLARK BENKENDORF, Bushnell, Ill., to Miss Celeste O'Brien of Chicago, Nov. 27, 1937.

MILTON E. BITTER to Miss Alberta A. Kindred, both of Quincy, Ill., in November 1937.

Personals

Dr. Alfred Lewy, 25 East Washington Street, Chicago, will address the Rock River Valley, Eye, Ear, Nose and Throat Society at Rockford on February 15, 1938. Subject, "Intracranial Diseases of Otitic Origin."

Dr. M. Herbert Barker addressed the Will-Grundy County Medical Society, January 12, on the subject, "Hypertension and Its Treatment."

Drs. G. W. Royston of St. Louis and Simon A. Wile addressed the Hancock County Medical Society January 10. Their subjects were "Management of the Puerperium and Its Complications," and "Prophylactic Use of Serums and Vaccines."

Drs. Edmond F. Foley and Paul Holinger presented a program on pneumonia, before the Bureau County Medical Society January 11. Their subjects respectively were "Diagnosis and Treatment of Pneumonia," and "Bronchoscopic Aspects of Unresolved Pneumonia."

Dr. Meyer Solomon gave a talk at the Edward Hines, Jr., Hospital on Mental Health and Tuberculosis under the auspices of the Chicago Tuberculosis Institute, on January 11.

Dr. Robert S. Berghoff addressed the Fort Wayne Medical Society, Fort Wayne, Indiana, subject "Heart Disease," January 18.

Dr. H. Close Hesseltine spoke on "Management of Puerperal Sepsis," and Dr. Ralph A. Reis on "Difficulties of Obstetrical Diagnosis," before the doctors of Jefferson-Hamilton, Wayne, Franklin and Saline Counties, at Benton, Illinois, January 27.

Drs. E. L. Cornell and Philip Rosenblum presented a program on obstetrics and pediatrics before the doctors of Jasper, Lawrence and Crawford Counties, January 18 at Robinson.

Drs. A. C. Rambar and M. E. Davis presented a pediatric and obstetrical program before the doctors of Iroquois and Ford Counties at Watseka January 20.

Dr. Edwin W. Ryerson read a paper on "Ununited Fractures" at the meeting of the American Academy of Orthopaedic Surgeons January 18 at Los Angeles, California.

Dr. Joseph Shanks was appointed Eye, Ear, Nose and Throat surgeon to the Courtesy Staff of St. Mary of Nazareth Hospital of Chicago, on January 17, 1938.

Dr. Cecil S. O'Brien, Iowa City, discussed "Staphylococcic Conjunctivitis" before the Chicago Ophthalmological Society January 17.

Dr. Andrew F. Barnett, Hines, has been appointed managing officer of the Anna State Hospital succeeding the late Dr. Ralph A. Goodner.

Dr. Francis E. Senear, Chicago, discussed "Early Diagnosis and Treatment of Syphilis" before the St. Clair County Medical Society January 6.

The Chicago Pathological Society was addressed January 10 by Dr. William H. Sweet, among others, on "Toxic Changes in the Spinal Cord Resulting from Spinal Anesthesia."

Dr. Loran E. Orr, formerly of Greenview, has been appointed coordinating epidemiologist to the state department of health, Springfield, according to the *Illinois Health Messenger*.

Dr. Ralph L. Ferguson, formerly of the department of pathology, Ohio State University School of Medicine, has been appointed associate professor of bacteriology at Loyola University School of Medicine.

A symposium on lymphoblastoma was presented before the Chicago Roentgen Society January 13 by Drs. Sol R. Rosenthal, Louis R. Limarzi, Ford K. Hick, Adolph Hartung and Theodore J. Wachowski, all members of the faculty of the University of Illinois School of Medicine.

The Rock Island County Medical Society was addressed January 11 by Drs. Roger T. Vaughan and Philip Thorek, Chicago, on "Abdominal Auscultation." Dr. Meredith H. L. Ostrom, Rock Island, read a paper on "The Significance of Pain About the Ear."

Dr. Vernon C. David, chairman of the department of surgery, Rush Medical College, delivered the fourteenth Lewis Linn McArthur Lecture of the Frank Billings Foundation at the Institute of Medicine of Chicago, January 28; his subject was "A Consideration of Some Etiological and Pathological Factors in Cancer of the Large Bowel."

Dr. Arthur E. Hertzler, professor of surgery, University of Kansas School of Medicine, Kansas City, will deliver the annual Stephen Walter Ranson Lecture at Thorne Hall, Northwestern University Medical School, February 15, under the auspices of Theta of Phi Beta Pi. His subject will be "The Thyroid Heart."

Dr. Alban L. Mann has resigned as health officer of Elgin, a position he has held since 1912. Although he retired from active service January 1, Dr. Mann will serve the city health department in an advisory capacity until June 30. A resolution was recently adopted by city council members in which Dr. Mann's services were termed "long, faithful and distinguished." He is 78 years of age.

Dr. Henry W. Gentles, director of the first aid service of the Chicago chapter, American Red Cross, was guest of honor at a testimonial dinner, December 14. The occasion was the retirement of Dr. Gentles after forty-five years of service with the Red Cross; in the future he will act as the chapter's first aid consultant. He has been in charge of the Chicago chapter's first aid service since its organization and was the founder of the uniformed volunteer first aid corps.

Dr. John O'Donoghue of Chicago addressed the Kankakee County Medical Society January 13 on "Gall Bladder Disease, Diagnosis and Treatment."

Dr. Paul D. White of the Massachusetts General Hospital, Boston, will give a paper on "The Nature, Diagnosis and Treatment of Heart Failure" at the March 3 meeting of the North Side Branch of the Chicago Medical Society, at 8:00 P. M., in the Drake Hotel.

Dr. Edmund Jacobson, Laboratory for Clinical Physiology, Chicago, addressed the St. Louis Medical Society on "The Tense Patient in General Medical Practice," on January 18, 1938. Following the address, the Society suspended its By-Laws, bestowing on him Honorary Life Membership.

Dr. Max Thorek addressed the staff of the Evangelical Deaconess Hospital (Milwaukee) and the senior medical students of Marquette University on Tuesday, January 4 and the staff of Woodlawn Hospital on January 7 on the subject of "Electrosurgical Obliteration of the Gallbladder."

Dr. Paul H. Harmon, Chicago, gave a lecture on "Poliomyelitis" to the students and the medical faculty of the University of Texas Medical School, Galveston, on January 12, 1938.

Dr. Paul H. Harmon, Chicago, addressed the Warren County Medical Society, Monmouth, on "Prophylaxis and Treatment of Poliomyelitis" at an evening meeting on January 24, 1938.

News Notes

—The state department of health is organizing a new district health unit to include East St. Louis, Centerville, Canteen and Stites. The East Side health district will be in charge of Dr. Robert C. Farrier, who recently resigned as director of the Delta County Health Department with headquarters in Escanaba, Mich. The headquarters of the new unit will be in East St. Louis, it is reported.

—A new $125,000 nursery for The Cradle will be constructed in Evanston, beginning April 1. The Cradle was established in March, 1923, to receive and prepare homeless babies for adoption. It has cared for a total of 3,363 babies, with only seventy-six deaths. Preliminary plans for the new building call for the erection of a modern fireproof three-story structure of white limestone, roofed with slate, at the corner of Simpson Street and Ridge Avenue.

—The Chicago Tuberculosis Institute January 1 began distribution of tuberculin to physicians of Chicago and Cook County. On request from a physician, either by telephone or by letter, the institute will send by return mail a supply of first and second strength purified protein derivative sufficient for ten skin tests. Incuded will be a card on which additional requests may be made when the supply on hand is exhausted or becomes old. There is no charge for the service. The institute hopes in this manner to facilitate tuberculin skin testing as an aid to early diagnosis of tuberculosis.

—A series of lectures for the nursing staff of the Edward Hines, Jr., Hospital, Hines, began January 11 under the auspices of the Chicago Tuberculosis Institute. Dr. Meyer Solomon gave the first lecture, on "Mental Health and Tuberculosis." Other lecturers include the following Chicago physicians:

Dr. Hugo O. Deuss, Treatment of Pulmonary Tuberculosis, January 18.

Dr. Paul A. Teschner, assistant director, Bureau of Health and Public Instruction, American Medical Association, The Nurse of Today, January 25.

Dr. Franklin R. Fitch, Gonorrhea and Syphilis —Twin Public Health Problems, February 1.

Dr. Jerome R. Head, Childhood Type of Tuberculosis, February 8.

Dr. Robert S. Berghoff, The More Common Forms of Heart Disease, February 15.

—A major epidemic wave of measles appears to be impending in Illinois, a release from the state departent of health announced January 14. Cases recorded rose 100 percent the week of the report. About 400 cases a day were being reported. During the twenty-four hours ended 8 a. m. January 15, eighty-two new cases of measles were reported to the Chicago Board of Health, bringing the number of cases this year to 1,570. The total reported in 1937 was 5,904. During December 293 homes were placed under quarantine in Waukegan, eighty-eight homes in Wood River were in quarantine January 6, and thirty-two in Pontiac during the month ended January 5. The schools were closed in Du Quoin when 400 and 500 cases were reported, and schools were also closed at Stonefort and Muddy. There were 297 cases in Bloomington, January 10. Thirty cases of smallpox were reported in seventeen families in Nameoki January 5, and one case in Waukegan, January 11.

—At a meeting of the Douglas Park Branch of the Chicago Medical Society January 18 Dr. Aaron Arkin discussed the present-day concept of hypertension from the clinicopathologic view and Dr. Louis N. Katz from the physiologist's view. Dr. Stanley Gibson addressed the Southern Cook County Branch January 18 on "Childhood Diseases and Their Immunological Aspects." At a meeting of the West Side Branch January 20 Dr. Charles Marshall Davison showed a motion picture on "The Technic of Thyroidectomy." The Jackson Park Branch was addressed January 20 by Drs. Edward J. Stieglitz on "Renal Function"; S. Kenneth Robinson, "The

Nature of the Anuria and Uremia After Surgical Operation and Blood Transfusion"; Leon Unger, "Migraine," and Francis P. Hammond, "Behind the Scenes in Medical Ethics." Dr. James K. Stack discussed "Injuries of the Wrist" before the Calumet Branch January 21. The Northwest Branch January 27 heard Drs. Herman L. Kretschmer discuss "Problems in the Diagnosis of Tumors of the Kidney." At a meeting of the Irving Park Branch January 25 Dr. George L. Apfelbach spoke on "Emergency Trauma—First Aid That Aids Later Reconstruction."

Deaths

HERMAN ROBERT BAUMGARTH, Chicago; Wisconsin College of Physicians and Surgeons, Milwaukee, 1898; a Fellow, A. M. A.; aged 69; on the staff of the Lutheran Deaconess Hospital, where he died, November 12, 1937, of arteriosclerosis and hypertension.

CHARLES S. BRANNAN, Albion, Ill.; Rush Medical College, Chicago, 1897; member of the Illinois State Medical Society; aged 70; died, November 8, 1937, in the Welborn-Walker Hospital, Evansville, Ind., following an operation for hernia.

JOHN E. BURBY, Peoria, Ill.; Baltimore Medical College, 1895; aged 67; died, November 9, 1937, of cerebral hemorrhage.

WILLIAM JOSEPH CARTER, Mattoon, Ill.; St. Louis University School of Medicine, 1905; a Fellow, A. M. A.; Fellow of the American College of Surgeons; on the staff of the Methodist Memorial Hospital; aged 61; died, November 23, 1937, of angina pectoris.

JOHN ULYSSES DAY, Jacksonville, Ill.; Barnes Medical College, St. Louis, 1908; aged 55; died, October 19, 1937, of dilatation of the heart.

FRANK FITZGERALD, Morrison, Ill.; Rush Medical College, Chicago, 1886; member of the Illinois State Medical Socitey; aged 80; died, October 24, 1937, of carcinoma of the sigmoid.

CALVIN A. FRAZEE, Springfield, Ill.; Chicago Homeopathic Medical College, 1887; member of the Illinois State Medical Society; past president of the Sangamon County Medical Society; aged 74; died, October 4, 1937, of acute dilatation of the heart, arteriosclerosis and hypertension.

ELMER ELLSWORTH HAGLER, Springfield, Ill.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1890; member of the Illinois State Medical Society and the American Academy of Ophthalmology and Oto-Laryngology; Fellow of the American College of Surgeons; past president of the Sangamon County Medical Society; member of the advisory board during the World War, and district chairman of the National Council of Defense; at one time demonstrator of ophthalmic and aural surgery and clinical ophthalmology and otology at his alma mater; aged 74; on the staff of St. John's Hospital, where he died, October 17, 1937.

CHARLES E. HARDIN, Flat Rock, Ill.; Barnes Medical College, St. Louis, 1904; member of the Illinois State Medical Society; aged 58; died, November 9, 1937, of carcinoma of the sigmoid and rectum.

ALFRED HARTMAN, Chicago; Chicago Homeopathic Medical College, 1898; Hahnemann Medical College and Hospital, Chicago, 1905; member of the Illinois State Medical Society; aged 68; died, November 15, 1937, in the South Chicago Community Hospital, of carcinoma of the prostate.

FRED CLIFTON HONNOLD, Glencoe, Ill.; Rush Medical College, Chicago, 1896; aged 65; died, October 14, 1937, in the Highland Park (Ill.) Hospital, of cerebral hemorrhage.

RICHARD HERMANN JAFFÉ, Chicago; Medizinische Fakultät der Universität Wien, Austria, 1913; professor of pathology at Rush Medical College and the University of Illinois College of Medicine; member of the American Association of Pathologists and Bacteriologists and the American Society for Experimental Pathology; since 1922 director of laboratories at the Grant Hospital; head of the department of pathology and since 1928 director of laboratories at the Cook County Hospital; aged 49; died, December 17, 1937, of coronary thrombosis.

FRANKLIN CALLENDER JESSUP, Chicago; Chicago Medical School, 1922; a Fellow, A. M. A.; aged 55; died, November 19, 1937, in the Post Graduate Hospital and Medical School, of cardiovascular renal disease and injuries received in an automobile accident.

CECIL JAMES JOHNSTON, Canton, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; served during the World War; formerly city physician; aged 53; died, October 6, 1937.

HARRY CLAYTON LOVELESS, Griggsville, Ill.; St. Louis College of Physicians and Surgeons, 1904; a Fellow, A. M. A.; past president of the Pike County Medical Society; served during the World War; aged 60; died, October 7, 1937, in Jacksonville, of arteriosclerosis and cerebral hemorrhage.

EUGENE A. MOULTON, Chicago; Hahnemann Medical College and Hospital, Chicago, 1906; member of the Illinois State Medical Society; served during the World War; formerly associate professor of materia medica at his alma mater; on the staffs of the Belmont and the Illinois Masonic Hospitals; aged 60; died, October 13, 1937, of chronic myocarditis.

MALCOLM PFANNEBECKER, Chicago; Loyola University School of Medicine, Chicago, 1926; aged 39; died, October 7, 1937, in the Mercy Hospital, of leukemia.

CHARLES FREMONT ROSS, Saunemin, Ill.; Rush Medical College, Chicago, 1881; aged 80; died, October 15, 1937, in Cleveland, Ohio, of cerebral hemorrhage.

RICHARD H. STREET, Chicago; Hahnemann Medical College and Hospital, Chicago, 1898; a Fellow, A.M.A.; formerly professor of otolaryngology at his alma mater; Fellow of the American College of Surgeons; on the staffs of the Chicago Memorial and Illinois Masonic Hospitals; aged 63; died, October 23, 1937, of coronary sclerosis and arteriosclerosis.